HISTORY

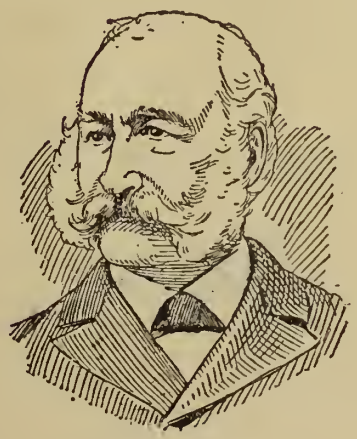
OF

A GREAT WORK

(Preceded by a Letter to the Union Trust Co. of New York)

AND OF

AN HONEST MINER



" Labor Omnia Vincit "

It is, however, a historical fact, that there has been opposition to all kinds of improvements either by the ignorant, the envious, or by those who were interested in keeping up the old state of affairs, since the world began. If you even look back to the great mechanical improvements that have been made, the introduction of the spinning jenny, and even that of sewing machines, you will find there was opposition. Every sewing girl in the country opposed sewing machines. They thought their occupation would be gone. We find many curious thing related in history. Take GALILEO, when he announced the discovery of a new planet. They scouted the idea. There had only been seven planets known before that, and the whole of Italy stood up in perfect horror. They preached against him from the pulpit everywhere, and the argument used against his discovery was, that is was impossible that there should be more than seven planets, because there were no more than seven days in a week, and no more than seven openings in a man's skull. That is the kind of argument they used, and some as unreasonable have been used against many new ideas. Look at the arguments used against the first railroad in England. They were of the most extraordinary and unreasonable kind. It makes us smile to read them now. There are many points resembling this fight against the Sutro tunnel.

(From page 68 of this volume.)

RESPECTFULLY DEDICATED

to Mr. HARRISON, President of the United States.

In memory of the " **red-letter day** " of April 27, 1891.

INDEX.

Adam E. King
Consul General

Robert M. Hooper
Vice and Deputy Consul General

Edward P. Mac Lean
Deputy Consul General

Consulate General
of the United States of America

36. Avenue de l'Opéra

Paris _____ 18__

Personally appeared before me, Robert M. Hooper, Vice Consul General of the United States of America, at Paris, France,- Joseph Aron, who resides in said Paris, office 30 Rue Bergère, who being by me duly sworn, did depose and say;- that he is one of the complainants in the suit in equity in the Circuit Court of the United States, Ninth Circuit, District of Nevada, entitled "Frank J. Symmes et al, Complainants, versus the Union Trust Company et al, Respondents;"- that he is the same Joseph Aron, mentioned as "one of the former Presidents of the Sutro Tunnel Company" on page 136 of Theodore Sutro's printed official Report to the Stockholders of the Sutro Tunnel Company, dated New York, July 1887;- that he has read and knows the contents of the six documents hereby attached, which are his own publication, and which are true to his own knowledge, said documents being;- Letters Nos. 1, 2, and 3, to Theodore Sutro Esq. President and Attorney of the Sutro Tunnel Company, and dated respectively, Nov. 20th 1888; Jan. 10th 1889; and Jan. 27th 1889.— Circulars to the Sutro Tunnel Shareholders, March 15th 1889,- and to the Comstock Tunnel Shareholders, May 8th 1890.— First volume of the History of the Sutro Tunnel.

Joseph Aron

Sworn to & Subscribed this 23rd Day of March A.D. 1892
Before me

Robt M. Hooper
Vice Consul General
Paris

ACT OF CONGRESS

APPROVED JULY 25, 1866.

AN ACT *granting to A. Sutro the right of way, and granting other privileges, to aid in the construction of a Draining and Exploring Tunnel to the Comstock Lode, in the State of Nevada.*

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That for the purpose of the construction of a deep draining and exploring tunnel to and beyond the Comstock Lode, so-called, in the State of Nevada, the right of way is hereby granted to A. Sutro, his heirs and assigns, to run, construct, and excavate a mining, draining, and exploring tunnel; also to sink mining, working, or air shafts along the line or course of said tunnel and connecting with the same at any points which may hereafter be selected by the grantee herein, his heirs or assigns.

The said tunnel shall be at least eight feet wide, and shall commence at some point to be selected by the grantee herein, his heirs or assigns, at the hills near Carson river, and within the boundaries of Lyon county, and extending from said initial point in a westerly direction, seven miles, mores or less, to and beyond said Comstock Lode; and the said right of way shall extend northerly and southerly on the course of said lode, either within the same, or east or west of the same; and also on or along any other lode which may be discovered or developed by the said tunnel.

SEC. 2. *And be it further enacted,* That the right is hereby granted to the said A. Sutro, his heirs and assigns, to purchase at one dollar and twenty-five cents per acre, a sufficient amount of public land near the mouth of said tunnel for the use of the same, not exceeding two sections, and such land shall not be mineral land or in the bona fide possession of other persons who claim under any law of Congress at the time of the passage of this Act; that upon filing a plot of said land the Secretary of the Interior shall withdraw the same from sale, and upon payment for the same a patent shall issue.

And the said A. Sutro, his heirs and assigns, are hereby granted the right to purchase, at five dollars per acre, such mineral veins and lodes within two thousand feet on each side of said tunnel as shall be cut, discovered, or developed by running and constructing the same, through its entire extent, with all the dips, spurs, and angles of such lodes, subject, however, to the provisions of this Act and to such legislation as Congress may hereafter provide: *Provided,* That the Comstock Lode with its dips, spurs, and angles, is excepted from this grant, and all other lodes with their dips, spurs, and angles, located within the said two thousand feet, and which are, or may be at the passage of this Act, in the actual bona fide possession of other persons are hereby excepted from such grant.

And the lodes herein excepted, other than the Comstock Lode, shall be withheld from sale by the United States; and if such lodes shall be abandoned or not worked, possessed, and held in conformity to existing mining rules, or such regulations as have been or may be prescribed by the legislature of Nevada, they shall become subject to such right of purchase by the grantee herein, his heirs or assigns.

SEC. 3. *And be it further enacted,* That all persons, companies or corporations, owning claims or mines on said Comstock Lode or any other lode, drained, benefited or developed by said tunnel, shall hold their claims subject to the condition (which shall be expressed in any grant they may hereafter obtain from the United States) that they shall contribute and pay to the owners of said tunnel the same rate of charges for drainage or other benefits derived from said tunnel or its branches, as have been or may hereafter be named in agreements between such owners and the companies representing a majority of the estimated value of said Comstock Lode at the time of the passage of this Act.

ACT OF THE LEGISLATURE OF THE STATE OF NEVADA.

AN ACT *granting the right of way and authorizing A. Sutro and his associates to construct a Mining and Draining Tunnel. (Approved April 4th, 1865.)*

The People of the State of Nevada, represented in Senate and Assembly, do enact as follows:—

SECTION 1. A. Sutro and his associates, successors, and assigns, shall, for the next fifty years ensuing, from and after the approval of this Act, have, possess, and enjoy the exclusive privilege of the right of way, and to run, construct, and excavate a tunnel, running into the Comstock Lode, from any point to be selected in the foot hills of the Carson River Valley, within the boundaries of Lyon county, and between Coral Canon and Weber Canon; also to sink mining shafts along the line or course of said tunnel, and connecting with the same at such points as may be selected by such parties; *provided, however,* the right of way hereby granted for said tunnel shall in no manner or in any wise interfere with any rights heretofore acquired in and to the said Comstock Lode, or any other lode along the line or in the vicinity of said tunnel, or any rights of property heretofore acquired by any person or corporation; and *provided, further,* that said right of way for said tunnel shall in no wise interfere with the rights of miners, according to the laws and customs of this State.

SEC. 2. That the object of said tunnel being for the purpose of draining the Comstock Lode, and all other lodes along its line of direction or course, and for the discovery and development of other lodes through which the same may pass, and for the general purpose of advancing the mining interests of this State, the rate, price, or sum of money to be charged for the benefit derived by the persons, companies, or corporations along the line of said tunnel, and others who may be benefited by the drainage of their mines or lodes, and freeing the same from the flow of water therein, shall be whatever sum or sums of money, or stock, which may or shall be agreed upon by and between the corporations, person, or persons to be benefited as aforesaid, and the grantee herein, his associates, successors, or assigns. And the said A. Sutro and his, associates, their successors and assigns, shall have the right to receive and collect all sums of money or stock which said persons, companies, or corporations shall contract to pay; and in default of the payment of the same, according to the tenor and condition of such contract or contracts, the said A. Sutro and his associates, their successors or assigns, shall have the right, and are hereby authorised and empowered, to sue for and collect the same in any court of competent jurisdiction in this State.

SEC. 3. It shall be the duty of A. Sutro, his associates, their successors or assigns, to commence the work of said tunnel in advancing the objects aforesaid, within one year from the passage of this Act, and to complete the same within eight years.

EXTRACTS FROM A LETTER

ADDRESSED BY

JOSEPH ARON TO THEODORE SUTRO

NOVEMBER 19. 1892.

On page 11 of your report you refer to me in the following terms :— " . . . It is to be sincerely hoped that the coming year will see an end of the irrepressible Mr. Joseph Aron and his campaign of misrepresentation, vilification, and abuse."

. . . . . .

For over thirty years I resided in the United States, being a partner of Weil and Company, tobacconists, of 65 Pine Street, New York, and formerly of San Francisco. I refer to the whole tobacco trade of New York and San Francisco as to whether my dealings were ever otherwise than honorable. For many years I was the *pro cura* of the banking house of Lazard Frères, 10 Wall-street, New York. I appeal to all those with whom I had dealings to state if they know of me anything but what is honorable.

You are an *attorney at law*, and a prominent member of the New York Bar Association. Now I venture to affirm (whatever may be the decision of the United States Court of Nevada as to the law and evidence in the suit of Frank J. Symmes et al, complainants, versus the Union Trust Company of New York et al., respondents), that, had you the courage to submit to your Association the testimony taken in the matter, that Association would find little doubt, as far as YOU are concerned, as to malfeasance of trust, and would debar you from practice.

Although it flatters me exceedingly to be described by you as "irrepressible," I must disclaim the credit of having instigated the suit against you and the Seligman Syndicate, that credit being due to Mr. F. J. Symmes of San Francisco. When that gentleman requested my financial aid, I accorded it cheerfully, and ultimately advanced funds to a far greater amount than I had at first agreed to do. My remittances to him were mostly made through Mr.——, the senior partner of a well-known house in San Francisco. After my first remittance Mr. Symmes requested me to join in the suit, in order to bring it before the United States Court.

I am at a loss to conceive (particularly after your report of September 8, 1890) on what grounds you make the bold statement that " Joseph Aron is now the only stockholder of the Sutro Tunnel Company who pushes the suit to its end." This insult to Mr. Symmes I leave that gentleman himself to answer.

PARIS, December 14th, 1892.

TO EDWARD KING, Esq., *President,* and Messrs. WM. WHITEWRIGHT, HENRY A. KENT, R. T. WILSON, WM. F. RUSSELL, C. D. WOOD, JAMES N. PLATT, D. C. HAYS, WM. ALEX. DUER, CHARLES H. LELAND, E. C. WESLEY, D. H. MCALPIN, GEORGE B. CARHART, CHAUNCEY M. DEPEW, H. VAN RENNSLÆR KENNEDY, JAMES H. OGILVEY, JAMES T. WOODWARD, I. H. FROTHINGHAM, GEORGE A. JARVIS, C. VANDERBILT, A. A. LOW, G. G. WILLIAMS, R. G. REMSEN, EDWARD SCHELL, AMASA J. PARKER, SAMUEL F. BARGER, W. EMLEN ROOSEVELT, and GEO. C. MAGOUN,

Trustees of the Union Trust Co. of New York.

GENTLEMEN,

I enclose you a copy of my letter of November 19 to the President and Attorney of the Comstock Tunnel Company. This letter—more particularly that part of it which contained an appeal to the "independent Press of the United States," has caused considerable merriment in some leading Americans financial circles of Paris. I will nevertheless continue, believing sincerely that there are still some independent newspapers in the United States.

To you, Gentlemen, the mortgagees of the Sutro Tunnel property, I will take the liberty of recounting the following facts :—

Three *first* mortgages were executed on the Sutro Tunnel property to different trustees, and by three different presidents.

The first one, in 1873, by myself, as President, jointly to Robert McCalmont, Esq., brother-in-law of Lord Cairns, (formerly Lord Chancellor of England), and senior partner of the house of McCalmont Brothers and Co., London, and to Isaac Seligman, Esq., of the Anglo-Californian Bank, and partner in the house of J. and W. Seligman and Co., of New York.

The photographic copy of the advertisement in the London *Times* of January 6, 1874, and of the editorial remarks in the money article of the same, *are self-explaining.* They apply to the Contracts of 1866, of which I enclose a copy.

These contracts prove that President Theodore Sutro made knowingly a false statement when he affirmed that "They were substantially the same as those of 1879." The contracts of 1866, guaranteed by the Act of Congress July 25, 1866, allow the Sutro Tunnel 2 dollars royalty on EVERY ton of ore taken out of the Comstock Lode.

The second *first mortgage* was granted, in 1877, by Colonel Brush or Elliott J. Moore, as President, to Robert McCalmont, Hugh McCalmont, and William Johnston Newall, composing the firm of McCalmont Brothers and Co., London.

The third *first mortgage* was granted in 1889 by Theodore Sutro, Esq., President of the Comstock Tunnel Company, to the Union Trust Company of New York, and on the same day this company deeded over the Sutro Tunnel property to the Comstock Tunnel Company.

The Union Trust Company of New York is a defendant, jointly with Messrs. J. and W. Seligman, Ladenburg, Thalman and Co., Geo. W. Stern, Theodore Sutro, and others, in a suit relating to this last deed and mortgage, etc., begun in 1889 before the United States Court of Nevada, in which suit I am one of the plaintiffs.

One of your co-defendants, the Hon. Theodore Sutro, President and Attorney of the Comstock Tunnel Company, in his third annual report, for the year ending August 31, 1892, refers to the suit in question in the following terms :—

> The malicious litigation against the Company, instigated by a stockholder of the Sutro Tunnel Company, could not, as we had hoped, be finally disposed of during the past year, although the taking of the voluminous testimony has at last been concluded. Briefs are now being prepared, and the case is to be submitted thereon, as well as argued, at the final hearing, set for the 15th day of November next. This senseless and spiteful suit has been a palpable injury to the Company, and its vindictive author, therefore, no doubt rejoices in the consciousness that he has done his utmost to achieve the noble work of saddling upon EVERY stock and bond holder a very large expense and liability for legal services, considerable loss in income, and great depreciation in our securities. It is to be sincerely hoped that the coming year will see an end of the irrepressible Mr. Joseph Aron and his campaign of misrepresentation, vilification, and abuse.

So it is affirmed, in an official report approved by your company, that, in the United States, it is possible that ONE stockholder, residing in Paris, fighting single-handed against such a powerful combination as the Seligman Syndicate (1) aided by one of the largest trust companies of New York, has the power to saddle upon every stockholder of an incorporated company "large expense and liability for legal services, considerable loss in income, and great depreciation in the securities," and that he will find a United States Judge who, for what is offficially called "a senseless and spiteful suit," will order such an investigation as the one which has taken place.

If this should be true, what would be the value of the so-called first-class American securities sold in London, Paris, and Frankfort by the leading American banking houses? How many of these securities are protected by an Act of Congress of the United States, as the Sutro Tunnel is?

In order to demonstrate once for all the effrontery of the President of the Comstock Tunnel Company in denying, while knowing them to be perfectly true, all my statements about Adolph Sutro, and particularly that concerning the locking up of shares in 1874 and up to 1879, I enclose a facsimile of the agreement between the McCalmonts and Adolph Sutro from 1874 to 1876, together with a facsimile of Adolph Sutro's copy of extension of that agreement up to 1879.

I have emphasized the name of one of your trustees, Mr. GEO. C. MAGOUN. Mr. Magoun, as a member of the firm of Kidder, Peabody, and Co., agents of the McCalmonts, had the entire management of the mortgage, and refused, in the month of February, 1888, to submit to the surviving member of that firm, Mr. Newall, the very fair and honest propositions made by the Board of Trustees of the Sutro Tunnel (elected in March, 1887), and brought to New York by Mr. Pelham W. Ames, although these propositions were recommended by Colonel Brush, for twenty years the confidential attorney of Robert McCalmont, the senior member of the firm, by Mr. Johns, the receiver appointed at the request of McCalmont Brothers, and by Mr. Ames, for nearly twenty years secretary of the Sutro Tunnel Co., appointed as such at the request of Messrs. Cross and Co., the California, agents of the McCalmonts, and elected in March, 1887, with Mr. Johns, a trustee of the Sutro Tunnel Company in the McCalmont interest, by those holding the Harry de Brod proxies.

What made Mr. Magoun (who is aware of the infamous conduct of Adolph Sutro, and who in 1880 asked me to help him to get proxies for the McCalmonts to oust Adolph, whilst Theodore was trying to get proxies for his brother) so amiable later on towards Theodore Sutro, and so willing to facilitate the scheme of the Seligman Syndicate, I will not attempt to explain except by stating that Messrs. Kidder, Peabody, and Co. are largely connected with the Atchison and Topeka Railroad and the Seligmans with the St. Louis and Pacific Railroad, both of which railroads are to-day so intimately connected.

I hope the inside history of these institutions is somewhat different from that of the Sutro and Comstock Tunnel Companies of which I give a short synopsis under the heading of "A Few Remarks."

I am, Gentlemen, yours very respectfully,

Joseph Aron
30 rue Bergère Paris

(1) See Theodore Sutro's reference to the Seligman Syndicate in his address of September 8, 1890.

A FEW REMARKS

Introductory to the Copy of the Deed of the Union Trust Company of New York (acting for the Seligman Syndicate) giving away the property of the Sutro Tunnel Company.

STATEMENT MADE BY JOSEPH ARON CONCERNING SUTRO TUNNEL AND COMSTOCK TUNNEL COMPANIES

(Accompanying his Letter of Nov. 30, 1892, to the Union Trust Company of New York.)

In 1874 I left California and went to reside in New York, resigning my Presidency of the Sutro Tunnel Company, which I had accepted two years before out of friendship to Mr. Adolph Sutro, and without any salary. I have never since been an officer of that company. When I left, the company had no debt, and possessed nearly $8,000,000 of stock (nominal value) in its treasury, besides a considerable amount due from McCalmont Brothers and Co. for shares sold to them.

The mortgage of 1873 to Robert McCalmont and Isaac Seligman was to be cancelled, as none of the bonds subscribed under that mortgage were allotted by McCalmont Brothers and Co. in January, 1874, when the loan was brought out in London.

Although over £150,000 were subscribed the first day (January 6, 1874), Robert McCalmont insisted on withdrawing the Sutro Tunnel loan from the English market.

Some time after this, while in London, I had many personal interviews with Mr. Robert McCalmont at 15, Philpott Lane, London. I will resume, as far as I can remember, and from memoranda which I have consulted, his words :—

> I withdrew the loan (said Mr. McCalmont) because Sutro and Seligman (who did not subscribe one cent to the bonds although he was a co-trustee with me) wanted us to pay extravagant commissions, etc. I refused, and as the public did not deem fit to subscribe at once on a bond offered by my house, I withdrew the loan and refused to make any allotment. I purchased personally more shares from Sutro. I believe in the value of the Sutro Tunnel, but my brother Hugh does not, as he believes about Sutro what Brush writes us. I am glad you believe Brush exaggerates ; and I hope you will influence Sutro to leave politics aside and let Sharon remain Senator, confining himself to the economical management of the funds in hand, so that they may last till the United States Congress will assist, as Sutro assures me it will. I wish you would remain president of the company.

I answered Mr. Robert McCalmont that, residing now in New York, I could not think of continuing to be the President of a California company, that I believed Sutro was honest although a little extravagant, and I advised him to instruct Brush to be very watchful but not small in his ideas, as Sutro had powerful enemies fighting against the tunnel.

Strange as it may appear to-day, I had at that time, and up to 1879, a blind confidence in Adolph Sutro's honesty. I am sorry indeed that it was I who brought about, at Sutro's solicitation (full details of this appear in my testimony before the United States Consul-General in Paris, July, 1887, and on record in the United States Court of Nevada), the written agreement entered into between Messrs. McCalmont Brothers and Company, of London, and Adolph Sutro (*the present proprietor of Sutro Heights, San Francisco*, then Attorney in fact of the Sutro Tunnel Company), by which they locked up one million five thousand shares of the Sutro Tunnel (or over one half of the full capital stock, constituting a voting control). This agreement guaranteed to Mr. Adolph Sutro the position of superintendent of the Sutro Tunnel at a salary of one thousand dollars a month.

The trustees elected under that agreement granted, Jan. 4, 1877, a mortgage to McCalmont Brothers and Co., for the purpose of securing the repayment of advances THEN made and thereafter to be made by that firm for the construction of the tunnel, etc., etc. On the 28th of March, 1878, the Sutro Tunnel Company entered into a supplementary agreement with the McCalmonts, in which it was acknowledged that moneys had been advanced under the mortgage up to the 25th of March, 1878, amounting, in the aggregate, to $433,965.10, and agreed that the Sutro Tunnel Company should, on or before the 1st of January, 1891, pay said sum and all further sums which the McCalmonts should thereafter advance to the Company, or for its benefit, with compound interest at the rate of twelve per cent. per annum from the 1st of January, 1879.

In 1879 the Sutro Tunnel reached the Comstock Lode, and the agreement between the McCalmonts and Adolph Sutro ended the same year.

In 1880 the McCalmonts ordered the discharge of Adolph Sutro as superintendent.

In the beginning of 1886, notwithstanding that the Sutro Tunnel Company had, since 1880, a positive yearly income from royalty which was entirely paid over to the McCalmonts or their agents, and notwithstanding also that McCalmont's attorney in California, Colonel Brush, was President of the Company, the survivors of the highly respectable firm of McCalmont Brothers and Co. (Hugh McCalmont and W. Johnston Newall)—incapable, in my opinion, of doing anything wrong or unfair, but then very old and sick—were advised to begin a suit in the United States Court of Nevada to foreclose the mortgage, which they had no right to foreclose before its maturity in 1891.

The suit was for the sum of $1,575,225.34, in which amount the interest figured for $577,372.82.

In the fall of 1886, a few stockholders of the Sutro Tunnel Company met in New York, at the request of Theodore Sutro, and engaged him as their attorney, to take steps to protect their interests in the suit. They paid Theodore a very liberal amount for the expenses of his journey to California. Messrs. Palmer and *Lowengard*, AS AGENTS, were the largest contributors.

I italicize the name of Mr. Lowengard—now the partner of Mr. Geo. W. Stern—because I did not know whether his late partner, Mr. Palmer, is aware how his name appears in the testimony given by Mr. Lowengard. This Mr. Lowengard, who understands so queerly the duties of an agent, judging me, no doubt, of the same calibre as his friends of the Frankfort school of bankers, offered me, by letters and cables, an interest in the Seligman Syndicate, which offer I treated with silent contempt.

On the 31st of January, 1887, Theodore Sutro asked for an order of the United States Court granting to the stockholders represented by him leave to intervene in the foreclosure suit. Mr. Theodore Sutro accused the trustees appointed by the McCalmonts of mismanagement, etc. About the agents of the McCalmonts in New York, Messrs. Kidder, Peabody, and Co., Mr. Sutro says :—"They were not inclined to grant us a single day's or hour's delay for any purpose, and were more determined now than ever to push the case, in the most vigorous manner, to a final conclusion, and treated such communications and approaches

as were made to them, on behalf of the company, in the premises, not only with silence, but with what almost amounted to contempt."

For full particulars of these accusations, and of the election of trustees, see Chapter VIII of Theodore Sutro's Report to the shareholders, July, 1887.

On the 28th of March, 1887, at the annual meeting of the shareholders, Theodore Sutro, holding proxies for over 1,000,000 shares, elected five out of the seven trustees, in the interest of the stockholders he represented:—Messrs. Moritz Mayer, John Landers, Roeding, Wilson, and David Cahn.

Under the California law it was possible for the McCalmont interest to elect two trustees, Messrs. Ames and Johns.

From this Board of Trustees Theodore Sutro received a gratuity of $1,000, and was appointed to the office of Attorney and Counsellor to the Company at a salary of four hundred dollars a month. This office had been created in consequence of an amendment to the bye-laws of the Sutro Tunnel Company proposed by Theodore Sutro and seconded by Lawyer Tauszky at the annual meeting of the stockholders, March 28, 1887. He received power to negotiate with Messrs. Kidder, Peabody, and Co. (the agents of the McCalmonts) for a compromise of the mortgage—in the interest of ALL the stockholders. He was enabled to do this without great difficulty, because the mortgagees doubted if they could collect the COMPOUND interest which had been charged. In the month of June, 1887, Messrs. Kidder, Peabody, and Co. agreed to accept, on the 31st of December, 800,000 dollars for payment in full of principal and interest.

In November, 1887, *and not before*, the stockholders were asked to subscribe to income bonds, at the rate of fifty cents per share, in order to raise the necessary funds; but before he applied to the stockholders, Theodore Sutro had in readiness behind the scenes a syndicate which should be ready to GUARANTEE the balance in case the stockholders should not at once contribute the full amount required.

The contract with the syndicate was only signed in June, 1888, and taken by Theodore Sutro, then president of the company, to California to receive the approbation of the Trustees. It contained two special provisions.

The FIRST condition provided for a payment to the syndicate of a commission of $200,000 in bonds and $50,000 in cash for their guarantee of the loan required in excess of the $550,000 subscribed then by the stockholders, and the existence of the Sutro Tunnel Company then to be maintained.

The SECOND special provision was for the possibility of its becoming necessary or advisable, in the opinion of the syndicate ONLY ! ! ! to buy and foreclose the mortgage for their benefit *alone*, and then reorganise in the form of a new company. In such case, further commissions and considerations were to be allowed to the syndicate and to Theodore.

The trustees of the Sutro Tunnel Company voted upon and approved of Mr. Sutro's syndicate plan UNDER THE FIRST TERMS ONLY, and so put themselves on record.

The subscription of the shareholders, before the foreclosing of the mortgage, amounted, with the royalty earned, to much more than 800,000 dollars.

I, in common with many others, subscribed to bonds in order to save the company, in the interest of ALL its stockholders.

In 1887, Messrs. Palmer and Lowengard, as my agents, subscribed on 31,000 shares which I had deposited with them.

On July 14, 1888, Messrs. Lazard Frères and Co., of Paris, ordered their New York house to pay to the Union Trust Company the assessment on 50,000 shares standing in the name of Joseph Aron; and to their London house they sent an order to pay on 11,500 shares to the London agents of the Union Trust Company, Messrs. Vivian, Grey, and Co.

At the end of July, I received (unasked-for) positive and reliable information in a letter from Mr. Pelham W. Ames, the secretary of the Sutro Tunnel Company, showing how treacherously the company's attorney was acting, and that the self-constituted executive committee and reorganisation committee in New York proposed to utilise the subscriptions of the stockholders for the benefit of the Seligman Syndicate (which in June—I affirm it most positively—had already been repaid a large part of its guarantee), and turn over the property to a new company.

I showed this letter to a very prominent and very influential New York banker, who, on July 11, had written to me to Vichy about the Seligman Syndicate:—"You will never succeed in defeating the rights of mortgagees who have advanced large amounts in good faith." ! ! ! This same banker told me later on;—"If Theodore Sutro has made a bad compromise with the mining companies, he was forced to it by your law-suit."

My letter to Otto Lowengard, member of the reconstruction committee, July 31, 1888, is very explicit, simply containing the remarks of Mr. P. W. Ames.

Disregarding my protest, as well as those of others, Theodore Sutro—who had now become President of the company while still remaining its Attorney—goes on with his scheme, causes the syndicate, through the Union Trust Company, to buy the mortgage for $800,000, contracts with its members for a fee of $100,000 for himself, and a position as president of the new company at a salary of $500 a month (although still claiming his salary as President of the Sutro Tunnel Company) assents to the foreclosure, and, as President of the Sutro Tunnel Company, confesses judgment in the sum of $1,400,000—more than $600,000 over and above what the syndicate had paid for it, and exceeding by the same amount the sum agreed upon as due from the Satro Tunnel Company.

F. J. Symmes et al. commenced suit to prevent the carrying out of the second plan of the syndicate, and, having subscribed to Sutro bonds, refused to accept the proffered bonds and shares in the new Comstock Tunnel Company. They surrendered their shares like others, receiving Sutro Company certificates, and now demand Sutro bonds and no new company.

They refuse to accept Comstock bonds or shares and bonds in any company with a bonded indebtedness of $2,200,000 as a substitute for those of their own company, which only owed $800,000. They refuse to consider or allow the extravagant and unjust fees and commissions, and declare that the Union Trust Company, to whom all the stockholders paid their money, are responsible to the stockholders for their subscriptions and their property. The Union Trust Co. carried the entire account on their books as in trust for the Sutro Tunnel Company, and we demand from them our property, and we propose to have the deed of September 1, 1889, annulled by the Courts, as well as the agreement of October 12, 1891, against which I protested through Notary Cammerer, of 10, Wall Street, New York.

THE UNION TRUST COMPANY OF NEW YORK

TO

THE COMSTOCK TUNNEL COMPANY

DEED.

DATED SEPTEMBER 1, 1889.

THIS INDENTURE, made this first day of September, 1889, between the UNION TRUST COMPANY OF NEW YORK, a corporation organized and existing under the laws of the State of New York, first party, and THE COMSTOCK TUNNEL COMPANY, a corporation likewise organized and existing under the laws of the State of New York, second party:

WHEREAS, First party heretofore received and accepted from Hugh McCalmont and others the assignment of a certain claim held by the said assignors against the Sutro Tunnel Company, a corporation existing under the laws of the State of California; and

WHEREAS, said claim was assured by a certain mortgage executed by said Sutro Tunnel Company to Hugh McCalmont and others, on certain properties and rights therein described; and

WHEREAS, The said mortgage was likewise by the said mortgagees assigned to first party; and

WHEREAS, Prior to such assignment said assignors had instituted in the Circuit Court of the United States for the District of Nevada, a certain suit for the purpose of foreclosing said mortgage; and

WHEREAS, After such assignment first party was substituted as complainant in said suit in place of the said assignors; and

WHEREAS, First party accepted said assignment and became complainant in said suit, in trust, for the benefit of certain parties who contributed the money for the purpose of paying for the claim and mortgage so assigned; and

WHEREAS, Thereafter such proceedings were had in said suit, that on or about the first day of October, 1888, a decree of foreclosure and sale of the said properties and rights in said mortgage described was passed by said Court;

WHEREAS, Pursuant to said decree, the said properties and rights were sold by James A. Moore, United States Marshal for the District of Nevada, appointed Special Master in said suit for the purpose of making said sale; and

WHEREAS, First party at said sale purchased the said premises; and

WHEREAS, After the period provided for in the said decree had passed, the said James A. Moore, United States Marshal for the district of Nevada, appointed Special Master as aforesaid, by indenture bearing date the second day of August, 1889, granted, bargained, and sold unto first party the said properties and rights in said mortgage and decree described, and which are the same properties and rights hereinafter conveyed; and

Whereas, The parties for whom first party purchased said mortgage and foreclosed the same, and purchased the properties and rights therein described at said Master's sale, or their assigns, have caused to be organised a new corporation by the name of "The Comstock Tunnel Company," second party herein and hereto; and

WHEREAS, Pursuant to the plan of reorganization agreed upon by the said parties, the whole of the capital stock of second party is to be issued in payment for the said property so purchased by the first party as aforesaid; and

WHEREAS, There is also to be issued by second party, bonds of the denomination of one thousand ($1,000) and five hundred ($500) dollars each respectively, to the amount of three millions ($3,000,000) of dollars; two thousand (2,000) of said bonds to be for the sum of one thousand ($1,000) dollars each respectively, and two thousand (2,000) of said bonds to be for the sum of five hundred ($500) dollars each respectively, said bonds to be disposed of pursuant to the plan of reorganization above referred to, and to be delivered by second party to first party, to the amount, and so far as may be necessary, to comply with the temporary receipts heretofore issued by first party, and to be otherwise disposed of according to said plan of reorganization; and

WHEREAS, The mortgage to secure said bonds, as provided for in said plan of reorganization, is to be executed and delivered at the same time with the execution and delivery of this indenture; and

WHEREAS, The execution and delivery of this indenture is conditioned and dependent upon the due execution and delivery of the said mortgage so to be executed and delivered as aforesaid; and

WHEREAS, This indenture and the said mortgage so to be executed and delivered, are to constitute one and the same instrument, and to be construed together as if they were one and the same instrument;

NOW, THEREFORE, in consideration of the premises and of the issue of all and singular the capital stock of second party, and of the execution and delivery of said mortgage, and of the agreement and promise and covenant of second party forthwith to execute, transfer and deliver to first party the amount of said bonds in said mortgage described, as provided in and according to said plan of reorganization, first party has granted, bargained and sold, and by *these presents* does grant, bargain and sell unto second party the following described premises, property and rights:

FIRST.—That certain mining and draining tunnel situated partly in the County of Storey and partly in the County of Lyon, in the State of Nevada, and commonly known and designated as the Sutro Tunnel, commencing at a point at the hills near Carson River and within the boundaries of Lyon County aforesaid, and extending from said initial point in a westerly direction seven (7) miles, more or less, to and beyond the Comstock Lode, and the lateral tunnels extending northerly and southerly from the main tunnel on the course of said lode, either within the same or east or west of the same, and all other lateral tunnels and all branches, drifts, workings and shafts connected with, belonging to, or appurtenant to the same; together with all the property, real, personal and mixed, and all rights, privileges, franchises and easements thereto belonging or in anywise appertaining, and the tolls, incomes, rents, issues and profits thereof.

SECOND.—All of the franchises, property, rights, privileges and easements, heretofore acquired or held by the Sutro Tunnel Company, and granted under or by force of an Act of the Legislature of the State of Nevada, entitled "An Act granting the right of way, and "authorizing A. Sutro and his associates, to construct a mining and "a draining tunnel," approved February 4, 1865; also, the exclusive privilege of the right of way, and to run, construct and excavate a tunnel running into the Comstock Lode, from any point selected, or to be selected, in the foothills of the Carson River Valley, within the boundaries of Lyon County and between Corral Cañon and Weber Cañon; and also to sink mining shafts along the line or course of said tunnel, and connecting with the same at such points as have been or may be selected, and to charge for the benefit derived by the persons, companies or corporations along the line of said tunnel, and others who may be benefited by the drainage of their mines or lodes and freeing the same from the flow of water therein, whatever rate, price, sum or sums of money or stock which have been, are, may or shall be agreed upon by and between the corporations, person, or persons to be benefited as aforesaid; and to receive and collect all sums of money or stock which said persons, companies or corporations shall contract to pay; and in default of the payment of the same, according to the tenor and condition of such contract or contracts, to sue for and collect the same in any court of competent jurisdiction in the State of Nevada.

Also, all the property, rights, privileges, easements and franchises heretofore held by the Sutro Tunnel Company and granted by the Act

of Congress of the United States of America, entitled "An Act grant-" ing to A. Sutro the right of way, and granting other privileges, to " aid in the construction of a draining and exploring tunnel to the " Comstock Lode, in the State of Nevada," approved July 25th, A.D., 1866.

Also the right of way to run, construct and excavate a mining, draining and exploring tunnel, and to sink mining, working and air shafts along the line or course of said tunnel and connecting with the same at any points which may be selected, commencing at a point at the hills near the Carson River and within the boundaries of Lyon County, and extending from said initial point in a westerly direction seven miles, more or less, to and beyond the Comstock Lode; and the right of way northerly and southerly on the course of said lode, either within the same, or east or west of the same; and also on or along any other lode which may be discovered or developed by the said tunnel. Also the right to purchase from the United States, at one dollar and twenty-five cents per acre, a sufficient amount of public land near the mouth of said tunnel for the use of the same, not exceeding two sections, not mineral land, or in the *bona fide* possession of other persons claiming under any law of Congress on the 25th day of July, 1866; also the right to purchase at five dollars per acre such mineral veins and lodes within two thousand feet on each side of said tunnel, as have been or shall be cut, discovered or developed by running and constructing the same through its entire extent, with all the dips, spurs and angles of such lodes, to the extent as granted in said Act of Congress, approved July 25, 1866; also the right, privilege and franchise that all persons, companies or corporations owning claims or mines on said Comstock Lode or any other lode drained, benefited or developed by said tunnel, shall hold their claim subject to the condition that they shall contribute and pay to the owners of said tunnel the same rate of charges for drainage or other benefits derived from said tunnel or its branches as have been or hereafter may be named in agreements between such owners and the companies representing a majority of the estimated value of said Comstock Lode on said 25th day of July, 1866.

Third.—Also the following described tracts of land situated in Lyon and Storey Counties, in the State of Nevada, to wit:

[Here follows the same description of property as in paragraph third of the Mortgage executed September 1, 1889, by the Comstock Tunnel Co., to the Union Trust Co.]

Fourth.—Also all ore and tailings and all mining and other machinery, stores, supplies, tools and implements, including all blacksmith tools and supplies, carpenter tools and supplies, drills, assaying outfits and supplies, engines, cars, tramways, rails, telegraph and electrical appliances and supplies, lumber, wood, coal, charcoal, chemicals, hardware, explosives, pumps, lamps, reflectors, farm and ranch supplies and implements, crops, grain, hay, horses, mules, live stock, wagons, vehicles, household and office furniture and supplies, and generally all machinery, implements, tools, supplies, appliances, and property now in use or on hand at or in connection with the said Sutro Tunnel or any part or portion thereof; and also all books of account and vouchers kept by the Sutro Tunnel Company in said Counties of Storey and Lyon, relating to the said tunnel or the business thereof.

Fifth.—Also all the right, title and interest of the Sutro Tunnel Company in, to, under and growing out of any and all articles of agreement contracts, and agreements heretofore made and entered into by and between the Sutro Tunnel Company, or its predecessors in interest, on the one part, and various persons, corporations and mining companies owning, operating and interested in mines, mining claims and lodes on the Comstock Lode and Vicinity, on the other part, which said articles of agreement, contracts and agreements provide, among other things, for the payment to the Sutro Tunnel Company or its predecessors in interest of certain royalties, tolls, revenues, charges and sums of money.

Also all the right, title and interest of the party of the first part in, to, under and growing out of all and singular the articles of agreement, contracts and agreements made and entered into prior to the said decree of foreclosure in said cause, hereinabove mentioned, by and between the Sutro Tunnel Company, or its predecessors in interest, on the one part, and various persons, corporations and mining companies, owning, operating or interested in mines, mining claims and lodes on the Comstock Lode and vicinity, on the other part, which said articles of agreement, contracts and agreements are referred to in said decree, and are specifically mentioned, described and enumerated in an order made in said cause on the seventh day of September, 1889, and which said articles of agreement, contracts and agreements were made and entered into by and between the Sutro Tunnel Company, or its predecessors in interest, on the one part, and the following-named persons, corporations and mining companies, on the other part, on the respective dates hereinbelow specified, that is to say:

In 1866. March 26, with the Gould & Curry Silver Mining Co.; April 3, with the Savage Mining Co.; April 6, with the Confidence Silver Mining Co.; April 11, with the Hale & Norcross Silver Mining Co.; April 12, with the Crown Point and White & Murphy Gold and Silver Mining Co.; April 14, with the Empire Mill and Mining Co.; April 16, with the Ophir Silver Mining Co.; April 19, with the Bacon, Gold Hill Quartz Mill and Mining Cos., Imperial and Overman Silver Mining Cos.; April 20, with the California Silver Mining Co., the Chollar Potosi and Best & Belcher Mining Cos.; April 25, with the Yellow Jacket Silver Mining Co. and Alpha Gold Hill Mining Co.; April 27, with the Belcher Mining Co.; May 9, with the Central Silver Mining and Bullion Mining Cos.

In 1879, March 29, with the Utah Silver Mining, Sierra Nevada Silver Mining, Union Consolidated Silver Mining, Mexican Gold and Silver Mining, Ophir Silver Mining, California Mining, Consolidated Virginia Mining, Best & Belcher Mining, Gould & Curry Silver Mining, Savage Mining, Hale & Norcross Silver Mining, Chollar Potosi Mining, Bullion Mining, Exchequer Mining, Alpha Consolidated Mining, Consolidated Imperial Mining, Challenge Consolidated Mining, Confidence Silver Mining, Yellow Jacket Silver Mining, Kentuck Mining, Crown Point Gold and Silver Mining, Belcher Silver Mining, Segregated Belcher Mining, and Overman Silver Mining Companies.

Also all other property and rights of every description sold under the decree of foreclosure hereinbefore mentioned, and granted, bargained and sold to the party of the first part by the said James A. Moore, Special Master, as aforesaid, by the indenture bearing date the second day of August, 1889, hereinbefore mentioned.

But without any covenant, express or implied, on the part of the first party as to the said premises, property or rights.

To have and to hold all and singular the property and premises above mentioned and described, and hereby conveyed unto the second party, its successors and assigns, for ever.

In witness whereof, the first and second parties have respectively hereto caused their respective corporate seals to be affixed, and these presents to be signed by their respective Presidents the day and year first above written, in quadruplicate.

Union Trust Company of New York,
By Edw'd King,
President.

Witness:
Charles Nettleton.

Attest:
[L. S.] A. O. Ronaldson,
Secretary.

The Comstock Tunnel Company,
By Theodore Sutro,
President.

Attest:
[L. S.] H. H. Thayer,
Secretary.

State of New York,
City and County of New York. } ss.

On this nineteenth day of October, 1889, before me personally came Edward King, to me known to be the person who executed the foregoing instrument as president of the Union Trust Company of New York, who, being by me duly sworn, said: That he resides in the City of New York; that he is the President of the said Company; that he knows the corporate seal of said company; that the seal affixed to said instrument is the seal of said company; that is was affixed to said instrument by order of the Board of Trustees of said company; that he signed his name thereto by the like order as the president of the said company; and he then and there acknowledged that he executed said instrument for said company and as its act and deed.

And on the same day, before me also personally came Theodore Sutro, to me known to be the person who executed the foregoing instrument as President of the Comstock Tunnel Company, who being by me duly sworn, said, that he resides in the City of New York; that he is the president of the said company; that he knows the corporate seal of said company; that the seal affixed to said instrument is the seal of said company; that it was affixed to said instrument by order of the Board of Trustees of said company; that he signed his name thereto by the like order as president of said company; and he then and there acknowledged that he executed said instrument for said company, and as its act and deed.

In Witness Whereof, I have hereunto set my hand and official seal the day and year above mentioned.

In Witness Whereof, I have hereunto set my hand and affixed my official seal this 19th day of October, A. D. 1889.

Charles Nettleton,
[L. S.] Commissioner for Nevada in New York,
115 & 117 Broadway,
N. Y. City.

In Witness Whereof, I have hereunto set my hand and affixed my official seal this 19th day of October, A. D. 1889.

Charles Nettleton,
[L. S.] Notary Public for New York,
State of New York,
117 Broadway, N. Y. City.

AGREEMENT made the 12th day of October, 1891, by and between the **COMSTOCK TUNNEL** Company, party of the first part, and the **UNION TRUST** Company of New York, party of the second part.

WHEREAS, the party of the first part, under date of September 1st, 1889, executed a certain mortgage to the party of the second part, as Trustee for the Holders of certain income bonds of the party of the first part, which mortgage embraces certain agreements made and entered into by and between the Sutro Tunnel Company, or its predecessors in interest, on the one part, and the following persons, corporations and mining companies, owning, operating and interested in mines, mining claims and lodes on the Comstock Lode and vicinity in the State of Nevada, on the other part, on the respective dates hereinbelow specified, that is to say

In 1866 in March, April and May

With the Gould and Curry, — Savage, — Confidence, — Hale & Norcross, — Crown Point, — White & Murphy, — Empire Mill & Mining, — Phir, — Bacon Mill, — Gold Hill Quartz, — Imperial, — Overman, — California, — Chollar Potosi, — Best & Belcher, — Yellow Jacket, — Alpha, — Belcher, — Central, and Bullion, **Gold & Silver Mining Companies.**

In 1879 on March 29th

With the Gould & Curry, — Savage, — Confidence, — Hale & Norcross, — Crown Point, — Utah, — Sierra Nevada, — Union Consolidated, — Mexican, — Ophir, — California, — Consolidated Virginia, — Best & Belcher, — Chollar Potosi, — Exchequer, — Alpha Consolidated, — Consolidated Imperial, — Challenge Consolidated, — Yellow Jacket, — Kentuck, — Belcher, — Segregated Belcher, — Overman, & Bullion, **Gold & Silver Mining Cos.**

AND WHEREAS, subsequent to the execution of the said mortgage certain differences arose between said mining companies, or their successors in interest, and said party of the first part, in respect to the payment of certain royalties or charges under the aforesaid agreements to the said party of the first part, and thereupon suit was commenced for the collection thereof by the said party of the first part and as a result thereafter negotiations were had with the said mining companies, whereby a settlement was effected on a new basis of charges or royalties and also modifying the aforesaid agreements entered into between the party of the first part and said mining companies under date of November 1st, 1890,

AND WHEREAS, the said party of the first part asserts that it can pay the interest on its said income bonds only out of the income derived from the said royalties or charges paid to it by the said mining companies under the said agreements of November 1st, 1890, and can obtain no income from the said previous agreements of 1866 and 1879,

AND WHEREAS, the holders of the said bonds of the party of the first part are believed to deem it to be to their interest, that the said settlements with the said mining companies under the said agreements of November 1st, 1890, should be assented to by said bondholders and by the party of the second part as Trustee for said bondholders and also that the party of the first part who have power to make such further modifications of said agreements of November 1st, 1890, and of the other agreements hereinafter mentioned, as may become necessary.

AND WHEREAS, said bondholders are to be called upon to have their said bonds stamped, as follows, by way of ratifying this agreement, namely :—

" The holder of this bond hereby assents to the agreement between The Comstock Tunnel Company "and the Union Trust Company of New York of date of the 12th day of October, 1891."

NOW, THEREFORE, in consideration of the premises and the covenants and agreements hereinafter contained, the parties hereto hereby agree to and with each other as follows, viz :—

FIRST.—The party of the second part hereby, as provided below in section Third, assents to and ratifies the aforesaid settlement and the said agreements of November 1st, 1890, made by the party of the first part, with the following named mining companies.

Alpha Consolidated Mill & Mining Cy.
Belcher Silver Mining Company.
Best & Belcher Mining Company.
Bullion Mining Company.
Challenge Consolidated Mining Company.
Chollar Mining Company.
Consolidated California & Virginia Mining Company.
Confidence Silver Mining Company.
Consolidated Imperial Mining Company.
Crown Point Gold & Siver Mining Cy.
Exchequer Mining Company.
Gould & Curry Silver Mining Company.
Hale & Norcross Silver Mining Company.
Kentuck Consolidated Mining Company.
Mexican Gold & Silver Mining Company.
Ophir Silver Mining Company.
Overman Silver Mining Company.
Potosi Mining Company.
Savage Mining Company.
Sierra Nevada Silver Mining Company.
Union Consolidated Silver Mining Cy.
Utah Consolidated Mining Company.
Yellow Jacket Silver Mining Company.

SECOND.—It is agreed by the parties hereto, that the party of the first part has power to make any further modifications of said agreements of 1866 and 1879, mentioned in the aforesaid mortgage of the party of the first part to the party of the second part, and also any modifications of said agreements of November 1st, 1890, and also of any other similar agreements heretofore or hereafter made by the party of the first part with any person whatsoever, whether before or after the assignment thereof to the party of the second part as required by said mortgage, provided any of the aforesaid modifications may seem necessary to the party of the first part and be authorized by a vote of not less than a majority of its entire Board of Trustees.

THIRD. This agreement becomes effective with respect to any bondholder, from the time of his ratifying the same by having his bonds stamped as aforesaid, but it is understood and agreed that it becomes effective, with respect to the party of the second part only, when ratified, as aforesaid, by holders of said bonds in such amount (but not less than 90%) in the aggregate, as may be satisfactory to the party of the second part.

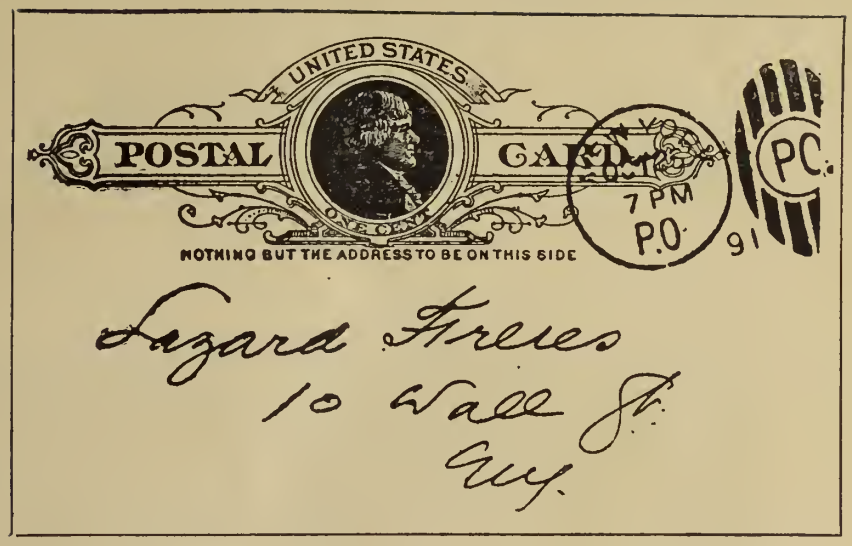
In witness whereof, the parties hereto have severally caused their corporate seals to be hereto affixed, and these presents to be signed by their respective Presidents and attested by their respective Secretaries, the day and year as above written, in duplicate.

Witness
PETER PALMER.

The Comstock Tunnel Company,
(Signed) by THEODORE SUTRO, President.
(Signed) (Attest), H. H. THAYER, Secretary.

The Union Trust Company of New York,
(Signed) by EDWD. KING, President.
(Signed) (Attest). J. V. B. THAYER, Asst. Secretary

[Sworn to before Peter Palmer, Notary Public.]



OFFICE OF THE COMSTOCK TUNNEL COMPANY,
115 BROADWAY.

To the Holders of the Income Bonds of the Comstock Tunnel Company:

In order that the mortgage to the Union Trust Company may not conflict with any modification found necessary in our existing or future contracts, an agreement with a view to that end has been executed between our Company and the Trust Company, subject to ratification by the bondholders, and can be seen at the office of the Trust Company, No. 80 Broadway, New York. All bondholders are hereby notified to present their bonds to the Trust Company, on or before Monday, November 2d next, for the purpose of ratifying said agreement by having the following assent stamped on the bonds:

"The holder of this bond hereby assents to the agreement between The Comstock Tunnel Company and the Union Trust Company of New York, of date the 12th day of October, 1891."

As the payment of interest on our bonds depends upon income obtained under modified contracts with the Mining Companies, and the money applicable to Coupon No. 4 is a part of said income, bondholders must have their bonds stamped as aforesaid before presenting this coupon for payment, which will be made by the Trust Company out of funds deposited with it for that purpose.

NEW YORK, October 12, 1891. HORACE H. THAYER, *Sec'y and Treas.*

THE COMSTOCK TUNNEL COMPANY

TO

UNION TRUST COMPANY OF NEW YORK

MORTGAGE

DATED SEPTEMBER 1, 1889

THIS INDENTURE, made this first day of September, one thousand eight hundred and eighty-nine, by and between THE COMSTOCK TUNNEL COMPANY, a corporation duly organized and existing under the Laws of the State of New York, in the United States of America, party of the first part, and the UNION TRUST COMPANY OF NEW YORK, a corporation duly organized and existing under the laws of the same State, party of the second part, WITNESSETH :

THAT WHEREAS, The party of the first part is the owner of a certain mining and draining tunnel situated partly in the County of Storey and partly in the County of Lyon, in the State of Nevada, commonly known and designated as the Sutro Tunnel, and of other property, real, personal and mixed, and of certain rights, privileges, franchises and easements thereto belonging and appertaining, and all hereinafter more fully described ;

AND WHEREAS, The party of the first part has, in accordance with a resolution of its Board of Trustees duly passed, determined to make and issue its income bonds to an amount not exceeding $3,000,000, to consist of a series of bonds to bearer, of the denominations of $1,000 and $500 with interest coupons attached, all of said bonds to be of even date herewith, and the principal sum therein named to be payable in gold coin of the United States of America, of, or equal to, the present standard of weight and fineness, on the first day of September, one thousand nine hundred and nineteen, at the office or agency of the party of the first part in the City of New York and State of New York, all of said bonds to be of substantially the following form :

UNITED STATES OF AMERICA.

STATE OF NEW YORK.

THE COMSTOCK TUNNEL COMPANY.

No.——. $——

For value received, The Comstock Tunnel Company promises to pay on the first day of September, nineteen hundred and nineteen, at its office, or agency, in the City of New York, to bearer, or to the registered owner hereof, if registered, the sum of
in gold coin of the United States of America, of, or equal to, the present standard of weight and fineness, with four per cent. interest per annum thereon, non-accumulative, in like gold coin, payable at said office or agency on surrender of the corresponding coupons hereto annexed, only out of the net income for the year, as follows : On the first day of May two per cent., or so much thereof as the net income for the six months ending on the first day of March next preceding shall suffice to pay on each of the bonds of this series then outstanding, and, on the first day of November, the balance of the four per cent., or so much of said balance as the net income for the year ending on the first day of September next preceding, over and above the net income applied to the payment of interest on the first day of May next preceding, shall suffice to pay on each of said bonds then outstanding.

The net income is so much of the gross income received as shall remain after deducting therefrom all general and operating expenses and all expenses for repairs, renewals, replacements, taxes and insurance.

This bond is one of a series of similar bonds of the authorized amount in all of three million dollars, two thousand of such bonds, numbered consecutively from one upwards, being for one thousand dollars each, and two thousand of such bonds, numbered consecutively from two thousand and one upwards, being for five hundred dollars each.

The payment of the principal, and of the interest out of the net income as aforesaid, of each bond is secured by mortgage bearing even date herewith upon all the property now belonging to, or hereafter to belong to the said The Comstock Tunnel Company, with appurtenances, executed and delivered to the Union Trust Company of New York, in trust for the holders of said bonds, which are issued subject to the provisions thereof.

It is agreed between the said Tunnel Company and the holder of this bond, that no recourse shall be had in any event for its payment to the individual liability, if any, of any stockholder of said company.

This bond is transferable by delivery. It may be registered on the books of said Tunnel Company, such registry to be noted on this bond, and thereafter will be transferable only on the books of said company, until transferred to bearer, after which it shall be again transferable by delivery, and subject to successive registrations and transfers to bearer. The registry of this bond shall not restrain the negotiability of the coupons by delivery only.

This bond is not valid unless authenticated by a certificate endorsed hereon signed by the Union Trust Company of New York, Trustee, or its successor or successors in said trust.

IN WITNESS WHEREOF, The Comstock Tunnel Company has caused its corporate seal to be hereto affixed, and these presents to be signed by its President and attested by its Secretary, on this first day of September eighteen hundred and eighty-nine.

THE COMSTOCK TUNNEL COMPANY

Attest : *President.*

Secretary.

FORM OF TRUSTEES' CERTIFICATE

The within bond is one of a series of income bonds described in the mortgage within referred to.

UNION TRUST COMPANY OF NEW YORK, *Trustee,*

By

President.

FORM OF COUPON

No.—— $——

The Comstock Tunnel Company will, on the first day of pay to bearer in United States gold coin, on surrender of this coupon, at its office or agency in the City of New York, the sum of dollars, or such sum as shall then be applicable for interest on its four per cent. income bond No. , pursuant to the terms of said bond and the mortgage therein referred to.

Treasurer.

AND WHEREAS, The written assent to this mortgage of a majority of the stockholders, owning at least two-thirds of the capital stock of the party of the first party, has been filed in the office of the Clerk of the City and County of New York, and also in the offices of the Clerks of the Counties of Lyon and of Storey in the State of Nevada, where the property covered by this mortgage is situated ; and, whereas, said party of the first part has its principal place of business within the State of New York, in the City and County of New York ;

AND WHEREAS, The party of the second part has agreed to

act as Trustee for the benefit and security of any and all persons and corporations who may be or become holders of any of said Income bonds.

Now, THEREFORE, the party of the first part, in consideration of the premises and of one dollar to it in hand paid by the party of the second part, the receipt whereof is hereby acknowledged, and to secure the payment of the principal of said Income bonds and the application of the net income to the payment of the interest on said Income bonds according to the tenor thereof, hath granted, bargained, sold, aliened, remised, released, conveyed and confirmed, assigned and transferred, and by these presents does grant, bargain, sell, alien, remise, release, convey and confirm, assign and transfer unto said party of the second part, which is hereby declared to be the Trustee for any and all persons and corporations who may be or become holders of any of said Income bonds and to its successor or successors and assigns in said trust forever.

FIRST. — All and singular that certain mining and draining tunnel situated partly in the County of Storey and partly in the County of Lyon, in the State of Nevada, and commonly known and designated as the Sutro Tunnel, commencing at a point at the hills near the Carson River and within the boundaries of Lyon County aforesaid, and extending from said initial point in a westerly direction seven (7) miles, more or less, to and beyond the Comstock Lode, and [illegible] lateral tunnels extending [illegible] and [illegible] from the main tunnel on the course of said lode either within the same or east or west of the same and all other lateral tunnels and all branches, drifts, workings and shafts connected with, belonging to or appurtenant to the same, together with all the property, real, personal and mixed, and all rights, privileges, franchises and easements thereto belonging or in anywise appertaining, and the tolls, incomes, rents, issues and profits thereof.

SECOND. — All of the franchises, property, rights, privileges and easements acquired or held by the party of the first part and granted [illegible] or by force of an act of the Legislature of the State of Nevada, entitled "An Act granting the right of way, [illegible] and [illegible] A. Sutro and his assigns [illegible] a [illegible] and draining tunnel," approved February 4, 1865, and [illegible] of the right of way and [illegible] and excavate a tunnel [illegible] the Comstock Lode from any point [illegible] the boundaries of the Carson River Valley, within the boundaries of Lyon County and between Coral Cañon and Webber Cañon, and also to sink [illegible] shafts along the [illegible] of said tunnel and [illegible] with the same at [illegible] points as have been or may [illegible] and [illegible] charge [illegible] by the persons, companies or corporations [illegible] said tunnel and [illegible] which may be benefited by the drainage of their mines or lodes [illegible] the same [illegible] or [illegible] of stock which have been [illegible] upon by and between the corporations [illegible] persons to be benefited as aforesaid [illegible] to [illegible] stock which said persons [illegible] shall [illegible] to pay, and to [illegible] of the payment of the same according to the terms and conditions of such contract or contracts, to sell [illegible] the State of Nevada.

Also all the property, rights, privileges, easements and franchises held by the party of the first part [illegible] Act of Congress of the United States of America, entitled "An Act granting to A. Sutro the right of way and granting certain privileges to aid in the construction of a draining and exploring tunnel to the Comstock Lode, in the State of Nevada," approved July 25, A. D. 1866.

Also, the right of way to dig, construct and excavate a mining, draining and exploring tunnel and to sink [illegible] and [illegible] along the line [illegible] of said tunnel and [illegible] with the same at all points which may be [illegible], commencing at a point in the hills near the Carson River and within the boundaries of Lyon County and extending from said initial point in a westerly direction seven miles, more or less, to and beyond the Comstock Lode, and the right of way [illegible] southerly in the course of said lode, either within the same or east or west of the same, and a [illegible] of [illegible] lode which may be discovered or developed by said tunnel. Also the right to purchase from the United States, at one dollar and twenty-five cents per acre, a sufficient amount of public land near the mouth of said tunnel [illegible] the same, not exceeding two sections, not mineral land or in the bona fide possession of other persons claiming under any law of Congress at the 25th day of July, 1866; also the right to purchase at [illegible] per acre such [illegible] and lodes within [illegible] feet on each side of said tunnel as have been or shall be [illegible] or developed by [illegible] and [illegible] the same [illegible], to [illegible], with all the dips, spurs and angles of such lodes, by the [illegible] as granted by said Act of Congress approved July 25, 1866; also the rights, privileges and franchises that all persons, companies or corporations owning claims on [illegible] lode [illegible] or other lodes drained, benefited or developed by said tunnel shall [illegible] as [illegible] that they shall contribute and pay to the owners of said tunnel the same rate of charges for drainage or other benefits derived from said tunnel or its branches as have been or hereafter may be named in agreements between such owners and the companies representing a majority of the estimated value of said Comstock Lode on said 25th day of July, 1866.

THIRD. — Also the following described tracts of land situated in Lyon and Storey Counties, in the State of Nevada, to wit:

The S. E. 1/4 of S. E. 1/4 of Section 36, Township 17 N., Range 21 E.

The S. W. 1/4 of Section 31, Township 17 N., Range 22 E.

The S. 1/2 of S. E. 1/4, S. 1/2 of S. W. 1/4, N. W. 1/4 of S. W. 1/4, of Section 32, Township 16 N., Range 22 E.

The S. E. 1/4 of S. E. 1/4 of Section 2, Township 16 N., Range 21 E.

The whole of Section 1, Township 16 N., Range 21 E., except the following blocks in the Town of Sutro, as per [illegible] map, viz.: Nos. 424, 425, 426, 427, 428, 429, 430, 431, 469, 470, 471, 472, 473, 474, 475, 476, 524, 525, 526, 527, 528, 529, 530, 531, [illegible] 570, 571, 572, 573, 574, 575, [illegible] 577, 578, 579, 580, 581, 582, 618, 619, [illegible], 621, 622, 623, 624, 625, [illegible], 627, [illegible], [illegible], [illegible], 627, 669, [illegible], [illegible], 672, 673, 674, 675, 676, 724, 725, 726, [illegible], [illegible], [illegible], [illegible], 731, [illegible], [illegible], [illegible], 772, [illegible], 774, 775, [illegible], [illegible], [illegible], [illegible], [illegible], [illegible], [illegible], 873, 874, [illegible], [illegible], 928, [illegible], [illegible], [illegible], 973 and 974.

The whole of Section 6, Township 16 N., Range 22 E.

The S. 1/2 of S. E. 1/4, S. [illegible] of S. W. 1/4, N. W. 1/4 of S. W. 1/4, S. W. 1/4 of N. W. 1/4, [illegible] N. W. 1/4, S. E. 1/4 of N. E. 1/4, N. E. 1/4 of S. E. 1/4 of Section 5, Township 16 N., Range 22 E.

[illegible]

The whole of Section 7, Township 16 N., Range 22 E.

The N. E. 1/4, N. W. 1/4, and W. 1/2 of S. W. 1/4 of Section 12, Township 16 N., Range 21 E.

[illegible] Section 11, Township 16 N., Range 21 E.

[illegible] Township 16 N., Range 21 E.

[illegible] Section 13, Township 16 N., Range 21 E.

[illegible] Section 18, Township 16 N., Range 22 E.

S. W. 1/4 and S. E. 1/4 of Section 5, Township 17 N., Range 22 E.

All of Mount [illegible] and [illegible] the United States [illegible].

[illegible] as the [illegible] Springs [illegible] Range 22 E. [illegible] in the State of Nevada.

[illegible] in the County of Lyon, State of Nevada.

[illegible] in the County of Lyon, State of Nevada.

Also [illegible] to the party of the first part [illegible] in the Counties of Lyon and Storey, State of Nevada.

FOURTH. — Also all [illegible] and [illegible] assaying [illegible] wood, coal, [illegible] pumps [illegible] horses, mules [illegible] wagons [illegible] and [illegible] supplies, and [illegible] and books of account [illegible] the party of the first part.

FIFTH. — Also all the right, title and interest of the party of the first part in, to, under and growing out of all and singular those certain [illegible] agreements, contracts and agreements [illegible] the Sutro Tunnel Company, a corporation duly organized and existing under the laws of the State of California, in the United States of America [illegible] made and [illegible] by and between the said Sutro Tunnel Company [illegible] mines, mining claims and lodes on the Comstock Lode [illegible] part, on the respective dates [illegible] that is to say:

DEEDS.

[illegible] 1, 1866. With the Gould & Curry Silver Mining Co.

[illegible] With the Savage Mining Company.

[illegible] April 6th, With the Confidence Silver Mining Co.

[illegible] With the Hale & Norcross Silver Mining Co.

In 1866.

On April 12th. With the Crown Point and White & Murphy Gold & Silver Mining companies.

On April 14th. With the Empire Mill & Mining Co.;

On April 16th. With the Ophir Silver Mining Co.;

On April 19th. With the Bacon Mill & Mining Co., the Gold Hill Quartz Mill & Mining Co., the Imperial Silver Mining Co., and the Overman Silver Mining Co.;

On April 20th. With the California Silver Mining, the Chollar Potosi Mining, and Best & Belcher Mining companies;

On April 25th. With the Yellow Jacket Silver and the Alpha Gold Hill Mining companies.

On April 27th. With the Belcher Mining Co.;

On May 9th. With the Central Silver Mining Co.; and With the Bullion Mining Co.

In 1879.

On March 29th. With the Utah Silver Mining Co., Sierra Nevada Silver Mining Co., Union Consolidated Silver Mining Co., Mexican Gold and Silver Mining Co., Ophir Silver Mining Co., California Mining Co., Consolidated Virginia Mining Co., Best & Belcher Mining Co., Gould & Curry Silver Mining Co, Savage Mining Co., Hale & Norcross Silver Mining Co., Chollar Potosi Mining Co., Bullion Mining Co., Exchequer Mining Co., Alpha Consolidated Mining Co., Consolidated Imperial Mining Co., Challenge Consolidated Mining Co., Confidence Silver Mining Co., Yellow Jacket Silver Mining Co., Kentuck Mining Co., Crown Point Gold and Silver Mining Co., Belcher Silver Mining Co. Segregated Belcher Mining Co., and Overman Silver Mining Co.

And also all the right, title and interest of the party of the first part in, to, under and growing out of any and all other articles of agreement, contracts and agreements heretofore made and entered into by and between the said Sutro Tunnel Company or its predecessors in interest on the one part and various persons, corporations and mining companies, owning, operating and interested in mines, mining claims and lodes on the said Comstock Lode and vicinity on the other part, providing for the payment to the said Sutro Tunnel Company or its predecessors in interest of any royalties, tolls, revenues, charges and sums of money.

Sixth.—All other property, real, personal and mixed, and of whatsoever name or nature and wheresoever situate, belonging or hereafter to belong to the said party of the first part and not hereinbefore specifically mentioned or described, including its franchises, privileges, rights and liberties. And also all the estate, right, title, interest, property, possession, claim and demand whatsoever, as well in law as in equity, of the said party of the first part of, in, and to the same and every part and parcel thereof with the appurtenances.

It being intended hereby to convey all and singular the property heretofore belonging to the said Sutro Tunnel Company and purchased by the party of the second part under a decree of foreclosure against said Sutro Tunnel Company and conveyed by the party of the second part to the party of the first part, by deed bearing even date herewith, as well as all and singular all other property of every kind, nature and description, now owned or hereafter to be acquired by the party of the first part.

To have and to hold all and singular the hereinbefore described property unto the said party of the second part, its successors and assigns forever, in trust to the uses and purposes hereinafter limited and declared.

Provided always, and these presents are upon the express condition, that if the said party of the first part, its successor or successors, shall well and truly pay or cause to be paid unto the holders of said bonds so issued as aforesaid, the principal thereof and the interest to grow due thereon respectively at the time and in the manner mentioned in said bonds according to the true intent and meaning thereof, and shall well and truly apply its net income to the payment of the interest on said income bonds as therein and herein provided, then these presents and the estate hereby granted shall cease, determine and be void.

First.—It is hereby covenanted by and between the parties hereto that the party of the first part shall from time to time and at all times hereafter, and as often as thereunto requested by said party of the second part, its successor or successors, execute, acknowledge and deliver all such further deeds, conveyances and assurances in the law for the better assuring unto said party of the second part, its successor or successors in the trust hereby created, and upon the trust herein expressed, the lands, tunnels, interest, contracts, franchises, privileges, rights and liberties, and all property of every kind and nature, together with its appurtenances, hereinbefore conveyed or contracted to be conveyed, or intended so to be, and all other property and things whatsoever which may be hereafter acquired by the said party of the first part, and all franchises now held by it, as by said party of the second part, its successor or successors, or by their counsel shall be reasonably required.

And the said party of the first part covenants and agrees, that it will, as soon as may be, execute to the said party of the second part, its successor or successors, in due form of law, proper assignments and transfers of any and all agreements or contracts which the said party of the first part may at any time hereafter make or enter into with any persons, companies or corporations owning, operating or interested in mines, mining claims or lodes on the Comstock Lode, or any other lode in the vicinity of the said Sutro Tunnel, providing for the payment of any sums of money or conferring any benefit or advantage upon the party of the first part, so that all such contracts and agreements may be more specifically embraced within the lien of this mortgage.

Second.—And it is hereby further covenanted and agreed by the party of the first part, that if any default shall be made in the payment of the principal of any of the said bonds, or any part thereof, at the time and in the manner mentioned in said bonds, that then and from thenceforth, on request of one-quarter in interest of the holders of such bonds then outstanding, it shall be lawful for the party of the second part, its successors and assigns to enter into and upon all and singular the real and other property hereby granted, sold or conveyed, or intended so to be, and every part and parcel thereof, and to sell and dispose of the same and all other property hereinbefore mentioned and described, and all benefit and equity of redemption of the said party of the first part, its successors and assigns therein, at public auction according to law, and as the attorney of the said party of the first part, by these presents duly authorised, constituted and appointed, to make, execute, acknowledge and deliver to the purchaser or purchasers thereof, his or their legal representatives, any deed or deeds of conveyance or other instrument in the law sufficient to vest in him or them the said mortgaged property and every part and parcel thereof, and out of the moneys arising from such sale or sales to pay the principal which shall then be due on the said several bonds pro rata and equitably to the respective holders and owners thereof, together with any interest which shall then have been earned and be due, with the cost, charges and expenses of such sale or sales of said property, rendering the surplus of the purchase money, if any there shall be, unto the said party of the first part, its successors and assigns, which sale so to be made shall forever be a perpetual bar both in law and in equity against said party of the first part, its successors and assigns, and against all other persons claiming or to claim the said property or any part thereof from under or by it.

Third.—In the event of the non-payment of interest on any of said income bonds to the extent that the same shall be earned and become payable, it shall be lawful for the party of the second part, or its successor, by its agent or attorney to enter into and upon all and singular the property hereby granted, and to use, manage and operate the same; to receive and to hold all the rents, incomes, issues and profits thereof; to apply the whole of the net income, after paying current interest, to the payment of the interest earned and due as aforesaid, and to retain possession of and operate said property until the entire amount of said due interest be paid, and thereupon, after deducting its compensation and reimbursing itself for necessary legal and other expenses incurred by such use, management and operation, to turn over the said property to said party of the first part.

Fourth.—In case at any time during the period of two successive years no interest shall be paid upon the bonds secured hereby, the party of the second part may take possession of the property covered by this mortgage, and operate and manage the same as it would be entitled to do under the next preceding article hereof, but at any time shall return possession of such property to the said party of the first part, and allow such party of the first part to remain in possession thereof, when and so long as the stockholders of such company, party of the first part, shall elect as Trustees of said company a board, the majority of whom shall be selected by the bondholders, such selection of Trustees by the bondholders to be made either at a called meeting of the bondholders or by the nomination in writing of such Trustees by the holders of a majority of the bonds secured hereby, then outstanding.

Fifth.—And it is further covenanted and agreed by the party of the first part that it shall and will pay and discharge all taxes assessments or other charges which are or may at any time be a lien, or be levied, assessed or imposed upon the premises or property hereinbefore mentioned or described or upon any part or portion thereof, the payment whereof shall be material or necessary to the protection of the security hereby created. And in default thereof the said party of the second part or its successor may pay such taxes and assessments and charges, and the amount so paid with the interest thereon shall be deemed to be secured by these presents. For non-payment by the party of the first part of said amount so paid by the party of the second part, with interest thereon, on demand of the party of the second part, the party of the second part shall have the same remedies of every kind for the collection thereof that it would have on default of the party of the first part to pay the principal of said bonds at maturity, and that it would have on default of said party of the

first part to apply the net income to payment of interest as herein provided.

SIXTH.—And it is hereby further covenanted and agreed by the said party of the first part, that it will semi-annually as soon as may be after the first day of March and the first day of September, and at least ten days before the first day of May and the first day of November, respectively, in each year during the continuance of this trust, make up and furnish to the party of the second part, or to the Trustee for the time being, a fair and just account of its payments, expenses and gross and net income for the six months ending on said first day of March or September, as the case may be, so as to exhibit the true sum applicable to the payment of interest on said income bonds, and will pay the said interest, or so much thereof as has been earned, on the first days of May and November respectively, according to the true intent and meaning thereof. And at all reasonable times the said Trustee or its successor in said trust, or its or his agents or attorneys may and upon the written request of holders of a majority in interest of said bonds then outstanding and with proper indemnity for expenses, shall examine all the books, documents and papers of the party of the first part in any manner relating to its earnings and expenditures, for the purpose of verifying and correcting said accounts, and the party of the first part agrees to pay the expenses of such examination; and all said books, documents and papers shall at all reasonable times be accessible to the said Trustee, its agents or attorneys.

SEVENTH.—And it is hereby covenanted and agreed by the said party of the first part that not more of such bonds shall be issued at the present time than shall be **absolutely** necessary for realizing sufficient for satisfying the claims of the party of the second part as Trustee and representative of the various subscribers to the said bonds under the plan of reorganization of the Sutro Tunnel Company (the predecessor in interest of the said party of the first part), hereby fixed at $2,000,000 in bonds, and for payment of attendant expenses of litigation and reorganization, hereby fixed at $139,000 in bonds, the remaining bonds to be kept as a reserve fund, to be sold from time to time, if necessary, upon a **unanimous** vote of the Board of Trustees of said party of the first part, and the proceeds used for improving or extending the property of the party of the first part, in some of the particulars mentioned in the report of Mr. Theodore Sutro to the stockholders of the Sutro Tunnel Company referred to in the circular of the Executive Committee of November 15, 1887, in the event that the surplus of the net income of the party of the first part, after payment of interest on said bonds and providing for the purchase and cancellation of the said bonds as hereinafter mentioned, shall not be sufficient for such improvements or extensions. It shall be the duty of the party of the second part to duly authenticate by signing the certificate endorsed thereon, and to deliver to the party of the first part such reserved bonds or any part of such bonds upon presentation to the party of the second part of a certified copy of a resolution of the Board of Trustees of the party of the first part, purporting to have been adopted by a **unanimous** vote of said Board, authorizing the issue of such bonds or such part thereof.

EIGHTH. — And it is hereby further covenanted and agreed by the said party of the first part that it will annually, on the first day of November, set aside one-half of the surplus of its net income for the year ending on the first day of September next preceding, after payment of interest, to be applied to buying and cancelling a portion of the said bonds, upon the following plan: Offers of bonds shall be invited, and the lowest offers accepted, if under 75 per cent., or the party of the first part may, at its option, buy bonds in the open market at any price. All bonds so bought shall be promptly cancelled. If bonds shall not be purchased to the full amount available the party of the first part may use the whole or balance of said amount, in its own discretion, for the purpose of making improvements or extensions in its property, or for paying dividends additional to those which may have been declared out of the other half of the surplus net income.

NINTH. — The net income referred to herein is understood to be so much of the total income received by the party of the first part as shall remain after deducting therefrom all general and operating expenses, and all expenses for repairs, renewals, replacements, taxes, and insurance.

TENTH. — The party of the second part or the Trustee for the time being shall have full power, in its discretion, to join in any conveyance by the party of the first part, by way of release or otherwise, of any part of the property covered by this mortgage which, in the judgment of the Trustee, shall not be necessary for use in the conduct of the business of the said party of the first part.

Any money which may be paid for such property so conveyed or released by said Trustee shall be received by the Trustee only, and by it invested in the purchase and cancellation of bonds secured by this mortgage, or in the purchase of property for said party of the first part, in the judgment of the Trustee useful and necessary for carrying on the business of said party of the first part, and which property shall become subject to the lien of this mortgage; and any property conveyed in exchange for such property so conveyed or released by said Trustee shall be conveyed to said party of the first part subject to the lien of this mortgage.

ELEVENTH. — And it is hereby further covenanted and agreed that no recourse shall be had for the payment of the said bonds, secured by these presents, to the individual liability, if any, of any stockholder of the said party of the first part.

TWELFTH. — The said party of the second part or any future Trustee may resign upon thirty days' notice to the said party of the first part, and any vacancy may be filled by appointment made by a majority in interest of the holders of said bonds then outstanding, or in case of their failure to make said appointment for a period of sixty days, then by the party of the first part, or, in case of the failure of either to make such appointment for a period of ninety days, then by any Justice of the Supreme Court of the State of New York upon the application of any of the parties in interest, and immediately upon making such appointment, in any of the ways aforesaid, all rights, powers and interests hereby conferred upon the Trustee herein named, its successor or successors in said trust, shall pass to and become vested in such substituted Trustee, without any other or further acts or deeds whatever.

THIRTEENTH. — Meetings of said bondholders may be called at anytime by either of the parties hereto or by **one-quarter in interest of holders of said bonds then outstanding,** or by a committee of said bondholders appointed at a previous meeting, by publishing notice of the time and place of said meeting at least twice a week in one or more daily newspapers published in the City of New York for six weeks prior to the time appointed, and every bondholder in person or by proxy may vote at any such meeting in proportion to the amount of said bonds owned and held by him.

FOURTEENTH. — And the said party of the second part hereby accepts said trust and agrees to execute the same, but without any responsibility, except for willful default or gross negligence in the premises. And it shall be no part of the duty of the Trustee to record or file this instrument as a chattel mortgage, the such recording or filing, if necessary, shall be the duty of the party of the first part or of the bondholders. Nevertheless the Trustees may so record or file if it sees fit. The Trustee shall be entitled to reasonable compensation for all services rendered in the execution of this trust.

IN WITNESS WHEREOF, the parties hereto have severally caused their corporate seals to be hereto affixed, and these presents to be signed by their respective Presidents and attested by their respective Secretaries, the day and year first above written, in quadruplicate.

THE COMSTOCK TUNNEL COMPANY,
By THEODORE SUTRO,
President.

Witness:
CHARLES NETTLETON.

Attest:
[L. S.] H. H. THAYER, *Secretary.*

UNION TRUST COMPANY OF NEW YORK,
By EDW'D KING, *President.*

Attest:
[L. S.] A. G. RONALDSON, *Secretary.*

STATE OF NEW YORK, }
City and County of New York, } ss.:

On this 19th day of October, 1889, before me personally came Edward King, to me known to be the person who executed the foregoing instrument as President of the Union Trust Company of New York, who, being by me duly sworn, said that he resides in the City of New York; that he is the President of the said Company; that he knows the corporate seal of said Company; that the seal affixed to said instrument is the seal of said Company; that it was affixed to said instrument by order of the Board of Trustees of said Company; that he signed his name thereto by the like order as the President of the said Company; and he then and there acknowledged that he executed said instrument for said Company and as its act and deed.

And on the same day before me also personally came Theodore Sutro, to me known to be the person who executed the foregoing instrument as President of the Comstock Tunnel Company, who, being by me duly sworn; said that he resides in the City of New York; that he is the President of the said Company; that he knows the corporate seal of said Company; that the seal affixed to said instrument is the seal of said Company; that it was affixed to said instrument by order of the Board of Trustees of said Company; that he signed his name thereto by the like order as the President of the said Company, and he then and there acknowledged that he executed said instrument for said Company and as his act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year above mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal this 19th day of October, A. D. 1889

CHARLES NETTLETON,
[L. S.] Commissioner for Nevada in New York,
115 & 117 Broadway,
N. Y. City.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal this 19th day of October, A. D. 1889.

CHARLES NETTLETON,
[L. S.] Notary Public for New York,
State of New York,
117 Broadway, N. Y. City.

HISTORY OF THE SUTRO TUNNEL COMPANY

I.

In the year 1865, the Nevada State Legislature granted to Adolph Sutro the right of way, etc., to construct a Mining and Draining Tunnel.

In August, 1865, Adolph Sutro deeded all his rights, title, and interest to an association known as the Sutro Tunnel Company, of which the following gentlemen were trustees :—Senator William M. Stewart, D. E. Avery, Louis Janin, H. K. Mitchell, and **Adolph Sutro**.

This deed was executed before H. M. Morgan, notary public, and is to be found recorded in Book of Deeds on page 672, Storey County Records.

In April, 1866, the Mining Companies on the Comstock Lode made an agreement with the Sutro Tunnel Company, binding themselves to pay, when the tunnel reached the Comstock Lode, two dollars on every ton of ore extracted from the said lode for all time.

After the signature of these contracts, the Trustees of the Sutro Tunnel Company deeded over to Adolph Sutro, **at his request,** the whole property in trust, as per following deed :—

Copy of Abstract of Deed from Wm. M. Stewart et al. to Adolph Sutro, April 26th, 1866

William M. Stewart, D.E. Avery, H. K. Mitchell and Louis Janin, Jr., Trustees of the Sutro Tunnel Company, to Adolph Sutro.	*Deed* dated April 26th, 1866 (Signed) Henry K. Mitchell, D. E. Avery, Louis Janin, Jr., A. Sutro, Acknowledged April 26th, 1866.

Before H. M. Morgan, Notary Public, Storey County, Nevada, by Henry K. Mitchell, D. E. Avery, Louis Janin, Jr., and A. Sutro

Recorded April 26th, 1866, page 288, Liber 26 of Deeds, Storey County Records.

Recites passage of an Act of the Legislature of the state of Nevada of date February 4th, 1866, whereby the Legislature of said state granted to the said A. Sutro and his associates, his and their successors and assigns, for the period of fifty years, from and after the approval of said act, the exclusive privilege of the right of way, and the exclusive privilege to run, construct and excavate a Tunnel running into the Comstock Lode from any point in the foothills of Carson River, Valley, within the boundaries of the County of Lyon, and between Corral Cañon and the Weber Cañon, and also granted other rights and privileges, which fully appear in the said act.

And further recites that the said A. Sutro and the above named William M. Stewart, D.E. Avery, Louis Janin, Jr., and H. K. Mitchell, have associated themselves together under the name and style of the "Sutro Tunnel Company" for the purpose of mining and completing said tunnel, in accordance with the terms and conditions of said Legislative enactment ; and that the said Sutro Tunnel Company are desirous of raising money to secure the early completion of said Tunnel.

Therefore in consideration of the premises and of one dollar in hand paid, the parties of the first part, do grant, bargain, sell and convey to the party of the second part, for the trust herein after mentioned.

All and singular the real estate, personal property, franchises, contracts, obligations *and joint stock interest of the said Sutro Tunnel Company,* now held or possessed, or which hereafter may be acquired, as well the interest of the parties of the first part, in or to the same, whether joint or several.

The true intent and meaning of this conveyance shall be, and is hereby authorized to convey the whole of said property, or such part thereof as may become necessary, to any person or persons, corporation or joint stock association, already formed, or which may hereafter be formed, who may agree to complete the said Sutro Tunnel in accordance with the said act of the Legislature :—the purposes of the said Sutro Tunnel Company, as expressed in the articles of Association and certain contracts heretofore made, up to the time of such transfer, by and between the parties to this indenture, and certain persons and corporations owning mining claims on that quartz lode, situated in the county of Storey, State of Nevada, known as the Comstock Lode.

Provided always, that any person or persons, corporation or joint stock association, who shall make or enter into such agreement with the party of the second part hereto, and shall receive for the parties of the first and second part and for the joint stock association the Sutro Tunnel Co., of which the parties hereto are Trustees, such interest *as the party of the second part may be able to secure.*

Giving and granting to the party of the second part full power and discretion to contract concerning the same.

The interest hereby provided to be reserved shall be delivered, either in the form of certificates of shares of stock of such corporation, or in conveyance, as the nature of the case may require, which shall be delivered to the party of the second part hereto, who shall hold the same subject to the uses and purposes afore said, and the same shall be distributed in *such manner as the said joint stock association "The Sutro Tunnel Co." may there after direct.*

And the said party of the second part is hereby fully authorized and empowered to do and perform all and singular every act or acts, necessary or proper to the carrying out of the objects of this conveyance and all such acts are hereby fully ratified and confirmed.

And the party of the second part hereby accepts this *conveyance and trust* subject to the *conditions* and *purposes* herein *expressed,* and *promises* and *agrees* on his part to do and perform the acts herein provided, *according to the true intent and meaning of this Indenture.*

This deed having been obtained, Sutro left for Washington and for Europe to seek funds for the construction of his tunnel. The Bank of California gave him the following letter of introduction :—

"D. O. Mills, "*President.* Bank of California. "W. C. Ralston, "*Cashier.*

"San Francisco, May 4, 1866.

"To the Oriental Bank Corporation, London.

"Dear Sirs,—This letter will be presented to you by Mr. A. Sutro, of this city, who visits England with the view of laying before capitalists there a very important enterprise, projected by himself, and known as the Sutro Tunnel, in

the State of Nevada. This tunnel is designed to cut the great Comstock Lode, or ledge, upon which our richest silver mines are located, at a depth of 2,000 feet from the surface, to drain it of water, render it easily accessible at that point, and thus increase the facilities and diminish the expenses of the progressive development of those mines. Too much cannot be said of the great importance of this work, if practicable upon any remunerative basis. We learn that the scheme has been very carefully examined by scientific men, and that they unhesitatingly pronounce in its favour upon all points—practicability, profit, and great public utility. Mr. Sutro, we presume, is furnished with the necessary documents to make this apparent, and our object in this letter is simply to gain for him, through your kindness, such an introduction as will enable him to present his enterprise to the public fairly and upon its merits.

"Yours truly,

"W. C. Ralston, *Cashier*."

Notwithstanding this letter and the well-known Act of Congress passed July 25, 1866, Sutro was unable to raise money in Europe. He sold a few shares in New York to Messrs. Pondir, Seligman, Stursberg, and others, and received the promises of other large capitalists that, if the mine-owners on the Comstock Lode subscribed 500,000 dollars, the New York capitalists would furnish 3,000,000 dollars.

II.

HOW JOSEPH ARON BECAME INTERESTED IN THE TUNNEL.

Before going any further, I will now explain how I became interested in the Sutro Tunnel.

Adolph Sutro came to my office one day, and told me about the grand enterprise he had in view—the Sutro Tunnel. He said that Senator Stewart and a few others were associated with him, and he wanted me to become interested in his projected tunnel. I declined, my acquaintance with Adolph Sutro being then very slight. Though he had had, when he kept a retail cigar store in San Francisco, business dealings with the house of Weil & Co., it was before I became a partner in that firm.

Sutro came to me day after day, maintaining that, as an old customer, he had a right to ask a little help in his enterprise. He offered me a certificate, which he called a **full share**, for 1,000 dollars, saying it would entitle me, when the Company was incorporated, to five hundred shares of 100 dollars each, explaining also that the full capital of the Nevada Association consisted of sixty of such full shares. At last, tired of Sutro's insistance (and more to get rid of him than anything else), I subscribed 1,000 dollars, and received *one share*, that is 50,000 dollars nominal value in the Sutro Tunnel (1).

I lost sight of Sutro for a while. Meeting him one day in the spring of 1867 in front of Martin's Restaurant on Commercial-street, San Francisco, he asked me to take breakfast with him, and I accepted.

Presently Sutro told me that ere long the thousand dollars I had subscribed would be worth much more; that the Trustees of the different Mining Companies had voted 600,000 dollars to be advanced to the Sutro Tunnel Company, and that the only thing required now was the ratification of these votes by the shareholders. I expressed myself glad to hear this, and Sutro continued :—

"Now, Mr. Aron, I am going to explain to you anyway what my project is, for I want you to understand it. Here is the report of that great German geologist, Baron Richthofen, the principal points of which I would like to explain to you."

When Sutro had finished he had thoroughly convinced me of the immense utility of the tunnel and of its great future. So much was I impressed that I told him that if, at any time, by any unforeseen accident, he was in need of assistance, I would help him as far as I was able.

Three months later Adolph Sutro came to my office, seeming in great distress. In answer to my questions he said that, owing to the influence of the Bank of California, the shareholders of one of the Comstock mines had refused to ratify the subscription made by their trustees.

I think I never saw a man so utterly broken down; and although I tried to cheer him up, it was in vain. "It is all up with the tunnel," he said; and it was of no use trying to do anything now, for, with the Bank of California against him, no one would be willing to help him.

I reminded him of my promise to give him assistance in case of an unforeseen accident. I meant to keep my word. I asked him how much he needed at present to tide over this matter.

At first he seemed to think I was not in earnest, but told me he would like to leave some money with his family, then go to Washington to prevent his bill being repealed, appeal to Congress for aid, and sail for Europe to try and interest capitalists there.

Thereupon I gave him 3,000 dollars, and promised to send his family 200 dollars a month during his absence, advising him to start right away.

He was much excited, vowed eternal gratitude, and declared I should have no reason to regret this timely assistance.

He then pressed me to buy up the shares he had given to those he called the California Bank Ring, saying that, now that they opposed him, he did not consider himself bound to recognise those certificates, and they could be bought cheap.

I told him he was wrong—that, having issued certificates, he could not annul them, even if the parties receiving them had not fulfilled their promises. Besides, my present object was to help him out of his trouble, and not to buy up stock.

III.

THE COMMITTEE ON MINES RECOMMENDS A $5,000,000 LOAN.

Adolph Sutro failed to raise funds in Europe. He returned to Washington in December, 1867, and got a bill introduced in the 2nd Session of the 40th Congress, which bill was referred to the Committee on Mines and Mining, who made a report to the House recommending a 5,000,000-dollar loan to the Sutro Tunnel Company, with a mortgage to the Government on all the property.

Sutro felt so certain of getting this bill passed, that he wrote to me again, insisting that I should buy, from such

(1) Amongst those I remember as having Nevada shares were: Senator Stewart, Louis Janin, H. K. Mitchell, John B. Winter, Joseph Brandenstein, A. Bloch, Henry Cohn, S. F. Curtis, Butterworth, **Richthofen**, A. Seligman, Carlysle, J. A. Paxton, John Wanderwater, W. B. Thornburg, Abraham Hexter, D. R. Ashley, E. Burke, O. E. Jones & Co., Lynch, W. O'Connel, J. C. Corey, Page, and Moore.

parties as had worked against him, the stock they had in the Sutro Tunnel Association. This, however, I did not do, having, in answer to his repeated requests for money, already sent him much more than I had agreed to do. After his return from Europe, Adolph Sutro wrote me the following letters :—

WASHINGTON, January 30th, 1868.

Friend Joe,—. . . . . Do not show this letter to anyone, for I do not want a soul to know anything about it but you.

No bill has been introduced yet, for I want nothing said in the newspapers. When I introduce the bill, it will not be over a week before it passes the House. The only men who will oppose me, at least as it stands now, and I have good reasons to think their opinions will be changed before long, are Stewart and Connese, the mere tools in the hands of those men out there. Nye, Cole, Williams, and Corbeth from the Pacific are my warm friends ; the whole delegation in the House from Cal., Nevada, and Oregon also.

What I tell you is my positive opinion after mature reflection ; do not believe that I run away with impressions which will prove erroneous, my experience has been too bitter for that.

If that bill passes our stock will be worth *more* than par the day after, and there will be a great scramble for it. If the bill passes the House, of which, as stated already, I am quite sure, and should possibly fail in the Senate, no earthly influence can be brought to bear from California to defeat it at the next session, and the stock will be worth even then at least 20 or 30 cents on the dollar.

Under these circumstances, it would be unpardonable if most of the stock out there, which can be got (if you act promptly and with confidence in what I tell you) for a mere song, is not bought up at once from such parties who have never helped a particle in this affair, and some of whom have actually acted against me. Their stock I would like to secure by all means, and if you are willing to sail in, do not hesitate a moment, I guarantee you a golden harvest in less than 6 months from now—no, in less than 4 months. If you do buy, I want you, however, to buy on *joint account, and advance the money for me.* Below you find a list of the principal stockholders, with remarks. S. Butterworth has one full share, which I have given to him, but he said he would simply take it on deposit. I enclose a note to him, which do not use, however, until I telegraph to you, and then try to get it or buy it by all means. If you speak to him now, he will tell Ralston that something is up.

Keep this letter where no one can see it, and do not say a word to anyone ; I want to keep all the opposition out which is possible to keep away. I consider $5.000 per share, under existing circumstances, no money at all, and you can no doubt buy much of it for a great deal less than one half. It would be necessary for you to send some one to Virginia city at once. Joe, I hope you will have confidence in what I tell you ; you will make the biggest kind of a pile out of this affair. We ask for 5¼ millions, and I do not think that the amount will be cut down. Do write to me regularly, and telegraph if necessary. If you have anything very particular to telegraph, which might leak out, you had better address your telegram to A. Drost, 25, Hanover-street, Baltimore, who will forward it at once to me.

This is important business I am writing about ; of course I cannot go into particulars why I am so positive about my prospects, you must simply rely on what I tell you. *What good could result to me to have you invest any more money in this affair if it should prove a failure?* I certainly would gain nothing by it.

I am publishing an extensive pamphlet which will be out in 3 or 4 weeks. I did not want it out before in order not to stir up any noise.

D. O. Mills was here last week ; had a long talk with him ; he says the bank of Cal. will not oppose me, but that is all bosh. I have been before the Committee of Mines and Mining already twice, and am sure of a favorable report in less than 30 days ; I can count votes enough in the house to carry the bill, but it will be 60 days yet before it comes up.

This letter will reach you about or near the last week of February ; you will therefore only have a couple or three weeks to act in ; after that time the telegraph will be sure of saying something about my prospects.

Truly your friend,
(Signed) ADOLPH SUTRO.

WASHINGTON, February 9th, 1868.

Friend Joe,—. . . . . Nothing could prevent an appropriation at the next session in December following. For these reasons do not hesitate, do particularly try to buy the interest (500 shares) which Louis Sloss holds, and which was originally issued to S. F. Curtis ; you can get it for about $1,000, if not for less ; for they are in with the Bank of California, and consider them almighty ; of course if *they* oppose me I can do nothing. Well they will all find out before long. Also the interest of John B. Winters, President of the Yellow Jacket Company, should be secured ; he is a mean dog.

Very truly, your friend,
(Signed) ADOLPH SUTRO.

WASHINGTON, March 31st, 1868.

Friend Joe,—I forwarded 50 Copies of my Book (The Mineral Resources, &c., in which the report of Baron Richthofen (1) printed from page 97 to 140) I had 1,000 printed . . . . . No Bill having been introduced, have circulated few as yet . . . . .
(Signed) ADOLPH SUTRO.

WASHINGTON, April 30th, 1868.

Friend Joe,—. . . . . By the time this reaches you my Bill will probably be about being reached and you may look for the Telegram so as to deliver the 50 Books (Mineral Resources, &c.) at once. Am almost certain my Bill will pass the House. If I had 5 or 10,000 dollars to dispose of now, it would be of immence service. (Signed) ADOLPH SUTRO.

WASHINGTON, D.C., May 15th, 1868.

JOSEPH ARON, Esq.,

My influence with the members has become so powerful that nothing can upset it. The Committee have passed my bill and adopted a very strong report recommending the appropriation of $5,000,000. It will be printed next week, and I shall send you a copy at once. I can count to-day votes enough to pass my bill in the House, and after that nothing will hinder its passage in the Senate. Keep the books I send you until I telegraph to you. If you can without much inconvenience to yourself get from 3 to 10,000 dollars for me, and telegraph it at once, it will be of great service and importance to me. Shall make it quite satisfactory to you. Very truly, your friend, (Signed) ADOLPH SUTRO.

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(1) Richthofen's Report of 1865 on the Sutro Tunnel and the Comstock Lode—44 pages—can be found in Adolph Sutro's illustrated book on the Sutro Tunnel [printed by John Murphy & Co., Baltimore], **presented by Sutro to every Member of Congress, with the following letter in fac-simile on the fly-leaf :—**

WASHINGTON, February, 1868.

Dear Sir,—We have a vast mining interest ; we have also a large national debt. The development of the former will secure the easy payment of the latter. THE ANNEXED BOOK (*a*) CONTAINS MUCH INFORMATION ON THE SUBJECT. A few hours devoted to its perusal will prove useful, interesting, and instructive. I am, dear Sir,

Most respectfully yours,
(Signed) ADOLPH SUTRO.

(*a*) On next page see Sutro's "Introductory" to his book.—J. A.

IV.

"THE COMPLETION OF THE SUTRO TUNNEL WILL ENRICH THE UNITED STATES BEYOND ALL EXPECTATION." ! ! ! ! !—*Sutro.*

The Committee on Mines and Mining, who reported unanimously in favour of a 5,000,000-dollar loan to the Sutro Tunnel Company, were probably much influenced thereto by Adolph Sutro's illustrated book on the Sutro Tunnel, to which the following is the "Introductory."

SUTRO'S "INTRODUCTORY."

The development of the mineral resources of this country forms a subject of such grave importance, one involving considerations of a politico-economical nature of such significant consequences, that it well behooves the American statesman, the patriot who has the future of this great Republic at heart, to devote some time to the earnest examination of those questions which have a vital bearing upon the future welfare of this country.

In the vast regions stretching from the Mississippi River to the broad Pacific Ocean, from the confines of Mexico to the icy regions of the North, there lie buried in the bowels of the earth incalculable treasures of the precious metal, which but await the industrious application of the hardy miner, and the fostering care of a providential Government to pour out a stream of gold and silver, which will so much increase the national wealth augment the resources of the nation, and spread welfare and prosperity throughout the extent of this vast land, **that the burdens of taxation will gradually disappear, and make the national debt sink into insignificance.**

If we contemplate that mighty interest, which can be made to create so many blessings, and find that it is neglected and declining from year to year, we must arrive at the firm conclusion that there is something radically wrong in our present system of mining, and that an immediate, practical, and effectual remedy should be applied to rescue from steady decline and eventual abandonment a source of wealth **which must be considered the most fruitful and important one this nation possesses.**

If the facts presented in the following pages are carefully examined, three prominent conclusions will be arrived at :

1st. That the main wealth of the mineral regions is contained in quartz lodes, the principal treasures of which are found at great depths beneath the surface.

2nd. That the present mode of mining downwards from the surface, is detrimental to the prosperity of the mining interests.

3rd. That a system of deep tunneling should be inaugurated, which will make mining profitable by giving a natural outlet to the flow of water, by ventilating the mines, by cooling the atmosphere, and by facilitating the extraction of ore.

Mining requires capital, Which the Western regions do not possess; the Eastern States have an abundance, but not for investment in mining enterprises, which are looked upon with suspicion, and are almost considered disreputable.

Some years ago many persons were found quite willing to embark in mining ventures, and considerable sums were invested ; but the experiences made have been disastrous and ruinous to those concerned, in almost every instance. This result has been charged to various causes, but the true one must be sought in the unwise, extravagant and wasteful manner in which the work on the mines has been performed.

The construction of deep tunnels, which by all authorities are admitted to be absolutely necessary to make mining operations successful, requires time, and the outlay of large amounts of capital, and consequently implicit confidence in the permanency of the mines.

It is the lack of confidence in the permanency of the mines (their downward extent to great depth not having practically been demonstrated in the United States) **which prevents the execution of such works.**

The Comstock Lode, the most productive of all mineral lodes in the world, producing as much silver as the whole Republic of Mexico, presents the most extraordinary example, illustrating the ruinous and wasteful manner of our present system of mining. We have a lode here which has produced within the last six years over seventy-five millions of dollars, and the whole of that enormous sum has been swallowed up by the expenses of producing it ! **The mines upon this lode have now reached such a depth that, after a few years, they must inevitably be abandoned, provided a deep tunnel be not constructed.**

Great mineral lodes, true fissure veins, according to experiences made in older countries, extend downward indefinitely ; we have the testimony of some of the first scientific men living, that the Comstock lode bears the strongest evidences of being a true fissure vein.

Here, then, we have a remarkable state of affairs: a lode yielding sixteen millions of dollars per annum, almost the whole amount being absorbed by the expenses of producing it, while the construction of a deep tunnel, for which extraordinary facilities exist, would leave one-half of that amount as a profit ; the downward continuance of the lode is theoretically at the same time conclusively proven, and still we find that capitalists cannot be found to undertake the construction of a deep tunnel, because the ores at great depth are not actually visible.

Were that tunnel completed to-day, a glorious reality, pouring out a silver stream of forty of fifty millions per annum, these same **capitalists**, who first want to eye the riches way down in the earth before they consent to invest, would be eager to enter into similar undertakings in all parts of the mining regions, and tunneling would become the order of the day. **The nation would be ENRICHED BEYOND ALL EXPECTATION, and the benefits to the Government and the people would be incalculable.**

That it is both the duty and the interest of the Government to aid in the construction of one such tunnel to serve as an index work, and thereby establish the continuance of mineral lodes in depth, cannot admit of any doubt.

The most favorable opportunity for such a demonstration presents itself in the construction of the proposed tunnel to the Comstock Lode ; **the Government may consistently extend its credit to that work, for almost no risk is involved, the security offered being a hundred-fold.** A simple investigation of the subject will prove this conclusively.

Some thirty years ago, a similar question arose in Saxony, when **Baron von Herder**, then chief of the mining department, as an introductory to a book on the subject, addressed his countrymen in the following words : *

"TO THE FRIENDS OF THEIR COUNTRY

" Do I dedicate the plan of a mining work, the execution of which is of the highest importance to the mining interests of Saxony

" It is the plan to drive a deep tunnel from the level of the Elbe near Meissen to the neighborhood of Freiberg, in order to drain the water " from the mines of that district to a much greater depth than heretofore, and by means thereof to secure their existence for centuries to come : " a plan which as to magnitude, time, and cost, is large and gigantic, but which appears in its effects and results so benevolent and full of bless- " ings, that the question as to cost should not form an obstacle to its execution.

" It is true that the resources of the mining treasury of the Freiberg district are too limited to bear these expenses : *but the execution of a " work which in times to come will be classed in the list of those great national monuments, which have for their object the lasting welfare of a " country, and which will secure the same for the latest generations and times, cannot be left to the mercy of a single mining district, but should be " looked upon as a work creating happiness and glory, and worthy of the participation and the promotion of the entire nation.*

" With unlimited confidence do I therefore present to the friends of their country, the following explanation and statement of this project :

" May they extend to it a wise and sympathizing examination and magnanimous consideration, and may they be assured of the fervent thanks " which posterity will grant them."

The mines of Saxony produced, and now produce, but a mite of what our mines do ; the national debt of that country is but small, and the burdens of taxation are not of an onerous character.

How much stronger then should the argument be in the case at issue ! A country containing more mines and richer mines than all the balance of the world combined ; a country having a national debt amounting to over twenty-five hundred millions of dollars, and a people crying out and groaning under unequalled burdens of taxation !

Wisdom and foresight point out but one course : let the mineral resources of the country go to ruin, and the national debt, the burdens of taxation, and general suffering will be increased from year to year.

Let our immense mineral resources be developed, an increase in the value of all property, a relief of the burdens of taxation, unparalleled advancement of commerce, industry and traffic, a bright future, speedy resumption of specie payments, and general welfare and prosperity will be the results.

Those who rule the destinies of this country have the solution of this question in their hands ; wisdom, foresight, liberality and true patriotism will grasp the issue, and promptly secure those results which will immensely benefit our present generation, and extend its blessings to posterity.

Washington, 1868. ADOLPH SUTRO.

* The deep Meissen Tunnel, by Sigmund Wolfgang, Baron von Herder, Leipzig, 1838.—A. S.

Congress adjourned without coming to the help of the Sutro Tunnel, and the following letter gives Sutro's explanation :—

JOSEPH ARON, Esq. 450, 13th-STREET, WASHINGTON, February 19, 1869.

My good friend Joe,—Please do excuse me for not having written to you for such a length of time, but I was so anxious to give you a favourable report about my affairs, and have been expecting to be able to do so from day to day and from week to week, that all this time has passed by, and still nothing has been accomplished.

As I told you already, when in San Francisco, according to all reasonable calculations, the Committee on Mines and Mining should have been called on the 15th of January or thereabouts ; but such a spirit of do-nothing has prevailed in this Congress that the time has been purposely used up in all sorts of speeches and parliamentary delays, in order to prevent any legislation of a special character, and the result is that over two weeks ago all preceding committees had been called, right up to ours, and still it has been impossible to go a step further and get at our committee. It is now too late to do anything at this session, and if we had been reached in the last ten days, the only wise plan, upon which we had determined, would have been to have consumed one hour in favourable speeches on the subject, and then have it recommended to the committee, which would have virtually killed it for the session. For even had it been carried by the House, it would have been too late for the Senate. But I became satisfied that we could not have carried it in the House either, for reasons which I can readily explain to you.

You have probably seen in the newspapers that a great many subsidy bills have been introduced for Pacific railroads, amounting in the aggregate to 3 or 400 millions of dollars ; this fact becoming generally known, the press throughout the country raised an unanimous cry against any further subsidies, as ruinous to the country, in consequence of the increase of the national debt it would create, the effect it would have in ruining our credit abroad, and as inaugurating a system which would result in the bankruptcy of the nation. General Grant, whose influence is immense just now, also expressed himself as utterly opposed to such an increase of the national debt, and expressed his special desire that Congress should not embarass his administration by any legislation which could conveniently be postponed.

This had a telling effect, and why the opinion of one men, if he be the President elect, should have such weighty influence over members of Congress requires, to any one not versed in the mysteries of the Government, a thorough explanation.

Members of the Senate and the House are almost all men with political aspirations ; a member of the House expects to be a Senator, a Senator to be a member of the Cabinet or foreign ambassador, etc., etc. Their fortunes depend on the influence they wield politically in their own States and districts ; that influence is mainly brought about by federal patronage. Take, for instance, a member or Senator from California : the one who succeeds in getting *his* particular friends appointed as Collector of the Port, Naval officer, Sup. of the Mint, Int. Revenue assessor and collector, etc., has laid the foundation, and a pretty safe one, for future political influence and agrandisement. This holds good for every State in the Union, and every Congressional district. Thus it is then that to the members of Congress, the friendship and good graces of the *incoming* President is paramount to everything else, and they rather abandon principles, lose their self-respect and independence, and go directly against their own views and wishes, at least for a while, in order to be in harmony and influence with the power that is to be. It is really humiliating to see men of ability and ordinarily of independence, creep down into the dust in order to gain a political point. Up to the 4th of March coming, General Grant therefore exercises the most unlimited control and power, more so than the Czar of Russia does over his subjects, as far as any legislation is concerned. But that day will see him on the pinnacle of influence. From that day on, his power commences to diminish, and everything will gradually resume the ordinary course, the appointments will be made ; the 100 applicants for every position will have 99 % disappointed, and therefore disaffected ones amongst them ; the members of Congress who have been successful will smile, those who have not will swear, and legislature will go on again as usual.

Please excuse me for having taken up so much space in describing to you what the nature of the pressure existing here is composed of. My best friends in Congress came to me and begged me not to press my bill, but let it go over, without giving me any explanation. I knew quite well that one expected to be in the Cabinet, another a foreign minister, another have control of the appointments in his own State, etc., etc., and in order not to make any enemies on either side, a determination of the leading men of both Houses prevailed *not* to do anything. but to kill time by long speeches and all sorts of parliamentary jugglery.

The consequence is that nothing has been done so far, and nothing will be done in the few days remaining now in the session. We will have to start afresh at the next session ; a short one will commence on the 4th of March, but with little prospect of accomplishing anything in the 60 days they will probably sit.

Next fall, I shall however take a fresh start with renewed vigor and confidence in my success, for I know full well that the delay thus far has been *accidental;* the merits of my project are becoming appreciated more and more, and I feel entirely confident of ultimate success ; the most able men in the nation tell me I only want to hold out a little longer. I must close now ; nothing has been done as regards changes in the tariff or int. revenue. Shall write to you again shortly. Show this letter to E. J. Moore, and adding my best regards, I am truly, your friend,

ADOLPH SUTRO.

P.S.—I forgot to say that I had a talk this very morning with General Grant. From all I can learn, he is not opposed to the proper development of our great interests. He has repeatedly declared that the will of the people or Congress shall be his, and but little danger of vetos during his administration is anticipated.—A. S.

V.

SUTRO FLAT BROKE.

Sutro came back from Washington in the spring of 1869, having failed in his attempt to pass his bill in Congress. To use a Californian expression, he was **flat broke** ; but he appeared as sanguine as ever. I so admired the man's energy that, although I had already invested a large amount, I could not resist his fresh demands, and again gave him a few thousand dollars.

Sutro said he had a new plan. He would apply to the Miners' Union to help him, insisting that, the tunnel once fairly started, he could incorporate the Company in San Francisco, and would later on be able to raise money in Europe.

On August 24 he wrote me the following letter :—

VIRGINIA (Nevada), August 24th, 1869.

JOSEPH ARON, Esq. . . . . .

Things here are working well ; in three or four days more shall know all about it ; I believe now that I shall raise here considerable money and be able to start work on the tunnel within a few weeks. Enclosed a call for a general meeting of the Miners' Union ; they are very enthusiastic over my proposition, and will no doubt generally come in with me.

Shall write more to you in a few days ; give my regards to Ab. Seligman. The people here are much pleased at the preference shown them in Washington over the Bank of Cal. I wish Abe would start a bank here ; he could get the *whole* business ; everybody is down on the Bank of California. With many regards, your friend,

(Signed) ADOLPH SUTRO.

In September, 1869, Adolph Sutro made his great speech, which I copy from the Sutro Tunnel Commissioners' Official Report to the United States Government, in which report, at Sutro's own request, the speech was incorporated (see page 48 of Commissioners' Report, Appendix M) :—

SPEECH OF ADOLPH SUTRO, ON THE SUTRO TUNNEL AND THE BANK OF CALIFORNIA.

FELLOW-CITIZENS :—

For some years past I have been closely identified with an enterprise which has a vital bearing upon the prosperity of this section of country, and if I appear before you now for the first time in my life as a public speaker, it is with a thorough conviction that upon its success depends your future welfare.

You have all heard of the Sutro Tunnel, but I believe there are many among you who do not entirely understand its importance, and the great results which must flow from its construction. If you will have a little indulgence with me, then, I shall try to explain to you what the tunnel will accomplish, what has thus far prevented its construction, and show you that by joint action you can easily consummate and carry out what appears to be a gigantic undertaking.

It will become necessary, in the course of my remarks, in order that you may properly understand this tunnel project, to expose some of the doings of an institution called the California Bank. I shall tell the truth, without fear or reservation, for I have come here to "fight it out on this line," and I intend to do so, "though the heavens fall."

About ten years ago, Peter O'Reilly discovered the existence of silver on what is now known as the Comstock lode, the richest silver vein of which there is any record in ancient or modern history. Work during that space of time progressed rapidly, and where it was an easy task to extract the minerals from these mines in the beginning, it is now one of extreme difficulty. They have reached an average depth of probably 1,000 feet, and we find that nearly fifty steam engines are required to pump out the water and hoist the ore. The expense of keeping so much machinery in motion is immense, and even at this present time they absorb so much of the profits that it has already become unprofitable to work some of the mines.

It is not only the original cost of the machinery and the enormous consumption of fuel, in a country where no coal exists, but the constant additions, the wear and tear of engines, boilers, cables, cages, &c., &c.; the vexatious delays by breaking down; the lengthening out of the pumps, pipes, and rods; the excavations for and the construction of pumps-bobs; the engineers, firemen, and other attendants required; in fact, the innumerable and constant expenses connected with the operation of extensive and heavy machinery, which has to be increased for every foot of descent, and which makes it only a question of time when these mines will have to be abandoned, no matter how rich the ore.

In addition to all this, we find that the heat at the present depth has so much increased that, notwithstanding the improved ventilating apparatus, the men can do but one half the work they could in a cool, healthy atmosphere, and the loss in consequence is more than a million of dollars per annum.

Is it any wonder, then, that these, the richest mines in the whole world, will no longer pay under the present unwise system of working? You are told that in order to make them profitable again your wages must be reduced, and next in succession you will be told that white labor does not pay any more at all, but that Chinese must take its place. If the mines do not pay now, what will be their condition in two or three years from now? If it requires from forty to fifty steam-engines to work them at a depth of 1,000 feet, how many will be required at a depth of 1,500 or 2,000 feet? If the thermometer now stands at 95 or 100 degrees Fahrenheit, and the miners become consumptive for the want of oxygen in the air, and can do but one half their usual amount of work, what will become of them at greater depth? Will it be possible to work them at all?

I might cite numerous instances of mines in Mexico, and all parts of the world, which had to be abandoned on account of the rapidly increasing expenses as depth was reached, but I cannot go into these details on the present occasion; all I can say to you is, that experience in all places and at all times has shown that mines at some time do reach a depth *where the constantly increasing cost of mining exceeds the yield*, and hence we find that during several thousand years of mining operations, even by means of tunnels and other auxiliaries, the greatest depth that has yet been reached on any mine in the world is but 2,700 feet.

The laws of nature and of mechanics are alike everywhere, and it is my firm belief that some of the mines on the Comstock lode have already reached a depth where it no longer pays to work them, and that they all will reach that depth before a deep tunnel can possibly be completed. What then will become of the once flourishing counties of Story, Ormsby, Lyon, Washoe, and Douglas, which almost entirely depend on the produce of these mines? Is it not proper that every good and well-thinking citizen should earnestly reflect upon the fate that would overreach this commonwealth should that great and only source of our prosperity cease to exist?

There would no longer be employment for the miner, the laborer, the mill-hand, the carpenter, the blacksmith, the mason, the teamster. No longer would there be any one to support and patronize your newspapers, groceries, bar-rooms, hotels, livery stables, express companies, assay offices, dry goods, clothing, millinery, drug, hardware, cigar, fruit, and book stores.

Your dwelling-houses would be deserted; your stores without tenants, your real estate valueless; your mills would be idle; no more lumber would be required; your farmers and gardeners would no longer have a market; your State government would commence to totter; the assessor would find his assessment-roll grow gradually less; the treasurer would see his cash account diminish in the same proportion: your State credit would be sadly shaken; the people in the mining districts of the eastern portion of Nevada would have to bear the whole burden of taxation to support the Government and to pay the interest on the State debt, and bankruptcy, ruin, and desolation would be brought upon a once flourishing country.

This is a sad picture; it is its darkest side; but is it not well, while we are still in a condition to act, while we have sufficient strength left to go to some exertion, while we have the means for self preservation, to look the enemy boldly in the face and devise such means as will avert the calamity?

The only remedy which presents itself, sure and certain in its operations, is the construction of the Sutro Tunnel. The day work is commenced on that tunnel, with a reasonable prospect of completing it, that day you give a new lease of life to this section of country. From that day on you instill new confidence into the future; from that day on your real estate and other property will once more assume a value, and people will no longer say to you, as nine out of ten do now, that they are going to leave the country in a few months.

Great tunnels have been constructed for centuries in all countries where mining is carried on intelligently, and they have accomplished precisely what we desire to accomplish here. I might give you instances of tunnels constructed, three or four times the length of the one proposed here, while they gave but one-sixth the depth; I might relate to you the magnificent results obtained from their completion; I might tell you of the enormous fortunes which were obtained thereby, and give you many other interesting particulars were it not for the want of time to-night.

The Sutro Tunnel, starting at a point near Carson River, will reach the Comstock lode in a distance of 20,178 feet, and cut the same at a perpendicular depth of 1,922 feet, or a depth along the dip of the lode of 2,900 feet below the floor of the Gould & Curry Company's former office. In order to expedite the work, four shafts will be sunk on the tunnel route, from the bottom of which, at the proper depth of the tunnel level, drifts will be extended in each direction. After reaching the Comstock lode, the tunnel will be continued northerly along the lode to and beyond the Sierra Nevada mine, and southerly along the lode to and beyond American Flat.

A very elaborate report was made some time ago by R. G. Carlyle, Esq., an engineer of a high order of ability, on the details of construction and cost of the tunnel; his report covers about 200 foolscap pages, is full of illustrations, and in its detail altogether a creditable and reliable work; his estimate gives the cost of the tunnel at about $100 in gold per foot, which, probably, is somewhat below the mark, taking into consideration the unknown difficulties usually encountered in such extensive works; he estimates the time necessary to complete it at two and a half years.

The principal advantages this tunnel will create, as far as mining operations on the Comstock lode are concerned, may be enumerated as follows:

First. All pumping-machinery may be dispensed with as soon as the tunnel is completed, for the shafts now existing on the Comstock lode may at once be connected with the tunnel by boring, which is at the present time accomplished rapidly, and at small expense, thus draining off the water from the shafts and permitting their connection with the tunnel without delay.

Second. The moment this connection is accomplished the most perfect ventilation is insured—drawing off the fumes of powder like a chimney would 2,000 feet in height, cooling the atmosphere, giving health and vigor to the miners, and preserving the timbers.

Third. The mines may thereafter be opened by numerous stations or galleries to the whole depth of 2,900 feet, thus showing the different bodies of ore contained in the mines, exposing many millions of treasure to the eye, and increasing their value in proportion.

Fourth. It will give a great impetus to the exploration of those mines which have thus far been unproductive, particularly those north of the Gould & Curry mine, and those on American Flat, which, to a large extent, have been lying idle on account of the great burden of exploring an unproductive mine through perpendicular shafts.

Fifth. For the reasons already stated, the extraction of ore will be so much facilitated and stimulated that the present production of twelve or sixteen millions of bullion may be increased to, or even be made to exceed, fifty millions of dollars per annum.

Sixth. Not only the pumping-engines may be dispensed with, but also those for hoisting; for after the shafts are connected, instead of hoisting the ore to the surface, and transporting it by means of wagons or railroad to the mills on Carson River, at an expense of at least three dollars per ton, it will fall down to the tunnel level by its own gravity, at no expense at all, while a railroad in the tunnel, but four miles in length, can deliver the ore at the mills on Carson River at an expense of twenty cents per ton.

Seventh. By this great saving in extraction and transportation, and the abolishment of all steam-hoisting and pumping engines, which now eat up all the profits, it will be made possible to take out the immense bodies of low-grade ores, assaying from $2 to $20 per ton, and which are known to exist on the Comstock lode, and which may be concentrated by means of the water which the tunnel itself will furnish. Five hundred millions of dollars, at a low estimate, contained within this mountain, without the tunnel, will forever remain slumbering in the bowels of the earth, for the expenses of extraction, under the present system, are greater than the value they contain.

Eighth. After the completion of the tunnel the mines may without the use of steam-engines be worked to great depth below the level of the tunnel, by conducting through pipes the water which may be collected on the surface from melting snow and rains, together with that contained in the mines, to hydraulic engines, or turbines, placed at the bottom of the shafts at the tunnel-level, thus using a portion of the very water which costs so much to pump out at present, as a most economical and useful motive-power to propel pumps, which raise the water from great depths below and discharge it through the tunnel.

Professor Weissbach, the best living authority, gives the power furnished by fifty gallons of water per second at 1,800 horse power, at a depth of 2,000 feet—more power than all the engines have now in operation upon the Comstock lode. It may safely be stated therefore, that by means of the Sutro Tunnel the Comstock lode may be profitably worked to a depth of at least 3,500 feet—a greater depth than has yet been reached in any mine in the world.

Ninth. Where only 2,000 men are now employed, at wages which may be cut down at any time, after the completion of the tunnel more than 10,000 would find profitable employment on the Comstock lode alone. The cost of mining would be so much reduced that those mines which now barely pay expenses would be enabled to pay regular dividends, and allow liberal wages to the men employed.

Tenth. The construction of the tunnel, giving a future to this country, would enhance the value of all property, restore confidence, and place the affairs of the people on a sound and solid basis.

While the tunnel would create a revolution in operations on the Comstock lode and secure the future of these mines for fifty or a hundred years to come, it will carry with it still more important results.

I now approach a subject which may properly be looked upon as the most important feature of this tunnel enterprise. I refer to the discovery and development of mines along the tunnel route, granted by act of Congress to the extent of 4,000 feet in length on every lode discovered.

The proposed tunnel will penetrate to the very center of this great silver-bearing mountain containing the Comstock lode, and traverse a country chiefly consisting of greenstone porphyry, a formation pronounced by Humboldt and others to be eminently productive of silver mines.

It is a fact well known to every miner that many lodes exist which do not reach up to the surface, and which are usually discovered accidentally, while running drifts or tunnels for some other lode; in miner's parlance they are

called "blind lodes," an expression derived from the fact that they are not visible at the surface. Upon these blind lodes the miner builds his hopes; they give him nerve and perseverance to follow his toilsome labors; their mysterious existence, the wealth which they are presumed to contain, and the uncertainty of their precise location, have a powerful bearing on the imagination of man, and are the levers which induce the undertaking of tasks by even single individuals from which they would otherwise shrink.

In a mineral-bearing region the hopes of discovering and opening valuable mines by running horizontal adits into a mountain are generally well founded; but nowhere on the face of the earth do we find a mountain range containing a vein as valuable as the Comstock lode, and a formation equally favorable for the existence of a series of mines. It is not only reasonable to suppose, but quite evident, that the immense convulsion which rent the earth in twain, and created the fissure which is known as the Comstock lode, at the same time must have cracked and opened the earth's crust in many other places.

These are only theories, but they are theories believed and adopted by every scientific man, and by every common miner, and confirmed by experience. It may, therefore, safely be predicted that the proposed tunnel, which will penetrate to the very bowels of Mount Davidson, will discover and open more treasure and wealth to the east and west of the Comstock lode than were ever before discovered by any work of this kind.

Independently of the large revenue the Tunnel Company will derive from draining the Comstock lode; from the transportation of men, ore, rock, and timber, independently of the great value of the company's land, and independently of any other consideration, the discovery and development of the mines contained in this argentiferous belt would justify the construction of this tunnel, simply as an exploring work, and for that purpose alone it should be looked upon as one of the best planned, legitimate, and promising mining enterprises ever undertaken in any mining district.

And now, fellow-citizens, allow me to give you a short history of my struggles in connection with this tunnel project, and let me explain to you what causes have prevented its success thus far.

On the 4th of February, 1865, the legislature of Nevada granted a franchise, giving me the exclusive right of way for fifty years, for the construction of a tunnel, commencing in the foot-hills near Carson River, to and beyond the Comstock lode. The charter did not specify any rates for drainage or other services, but left that open to private agreement by the mining companies.

I now invited all parties who wished to do so to join in the enterprise, and an association was formed under the name and style of the Sutro Tunnel Company, of which William M. Stewart, our present Senator, was duly elected president. A proposition was submitted to the mining companies "that the Sutro Tunnel Company would agree to raise the funds for the construction of the tunnel abroad, in quarters where cheap capital abounds, provided the mining companies would agree beforehand to pay certain rates of charges for drainage and otherwise after the tunnel should be completed and actually benefit them."

When the necessity and importance of the tunnel, and the immense advantages which would be derived therefrom by the stockholders of the mining companies, had been thoroughly explained, which, however, required a number of months, contracts, drawn by some of the best lawyers of San Francisco, were adopted and signed by the following-named companies on the Comstock lode: Ophir, Central, California, White & Murphy, Best & Belcher, Gould & Curry, Savage, Hale & Norcross, Chollar-Potosi, Alpha, Bacon, Gold Hill Quartz Mill and Mining Company, Confidence, Imperial, Empire, Yellow Jacket, Crown Point, Belcher, Overman, and by several private individuals owning claims.

Under these contracts, the companies agreed, and made the fulfillment of the terms a mortgage upon their respective mines, that they would pay to the Sutro Tunnel Company forever, for every ton of pay ore extracted from any part of the mines; whether from the surface or through the tunnel, two dollars, from the time the tunnel or its branches should perpendicular reach under them, or should actually drain the mines. There were other charges provided for for the transportation of rock, timber, men, &c., &c., which need not be enumerated here; it must suffice to state that, under these contracts, at the rate of production at that time, the mining companies had agreed to pay to the Sutro Tunnel Company at the rate of about $7,000 per day, while these daily payments, after the tunnel should increase the production, were expected to reach $20,000, and still make a saving of twice that amount to the mining companies, by means of the immense advantages the tunnel would furnish. After these contracts were duly signed, sealed, and delivered, in triplicate, one copy being retained by the mining companies, one copy deposited in the vaults of the Bank of California at San Francisco, and one copy being delivered to the Sutro Tunnel Company, I started, as the duly authorized agent of all concerned, for Washington, where I arrived in June, 1866, expecting to obtain from Congress such additional privileges and rights as Congress alone could grant, (the title to all public lands and mines in this section still being in the Government) and as were considered necessary in order to obtain the required funds for the construction of the tunnel.

After some efforts, a law passed the United States Congress which was approved by the President of the United States on the 25th day of July, 1866 giving to me, my heirs, and assigns (in trust for all concerned) the following important rights:—

First. The right of way for ever from the foot-hills on Carson River to and beyond the Comstock lode, and on any lode which should be cut or discovered by the tunnel.

Second. The title to 1,280 acres of land at the mouth of the tunnel.

Third. The title to all the mines which should be cut by the tunnel, and which were not already owned by others at that time.

Fourth. It compelled the mining companies, those who had signed the contracts as well as those who had not, to contribute for ever the rates of charges named in the aforesaid contracts, and it made their title subject to that condition.

Congress, in this last section, assumes the function of regulation or administration of the mines in an important argentiferous locality, by recognizing the necessity and importance of a deep tunnel and the equitable adjustment of payment therefor. The rates to be paid to the tunnel company might as well have been named in the act, but Congress preferred to simply refer to the rates named in the contracts, as agreed upon by the mining companies, and in consideration of the immense efforts which had already been made, and which were supposed to be required to carry out so gigantic a work, imposed no clause of forfeiture, but declared all the rights granted as vested for ever in the grantee.

Thus fortified with a most valuable mining grant, the first one ever made by this Government to an individual, and provided with other privileges worth several millions of dollars per annum, I proceeded to New York, expecting to raise the requisite funds without any difficulty.

The whole merits of the enterprise were fully set forth in a pamphlet published by me and submitted to the first and wealthiest men of that great metropolis, among whom were Commodore Vanderbilt, William B. Astor, and many others, but, in every instance, one obstacle presented itself, and that was, that if the statements made were correct, there could be no difficulty in so magnificent an undertaking to raise some of the funds, even if it be but a small portion of the sum required, at home, and I soon became convinced that this was the only true course to be pursued. I requested these gentlemen to express their views in a communication to me, which might be submitted to the people of California and Nevada, and, as a consequence, they adressed to me the following letter:

"Dear Sir:—

"We have carefully examined your project for a draining and mining tunnel to the Comstock lode in the State of Nevada, and consider the same an enterprise which, in our opinion, when carried out, will prove of incalculable benefit to the mines on that lode, and at the same time may be a source of large revenue to the parties undertaking it.

"We have taken some pains to ascertain what chances exist in this city to obtain the necessary capital, and have come to the conclusion that you will find it a matter of serious difficulty to convince the people of New York at large of its value; the principal and, in our opinion, fatal objection to its success here at present being the fact that no portion of the capital has been subscribed on your coast.

"If the mining companies on the Comstock lode, and the people of Nevada and California, who are familiar with the value of your mines, would evince their confidence in this enterprise, by subscribing a portion of the requisite capital, say $400,000 or $500,000, and work on the tunnel is actually commenced, we think you will find comparatively an easy task to obtain the balance of the funds here.

"We would consequently advise you not to lose any valuable time in futile attempts here or in Europe, where, no doubt, the same objections will be raised, but to return at once to San Francisco and use your efforts there to get the work started.

"Let some of the leading men on your coast, who are known here for their commercial standing and their integrity, form a preliminary board of directors, and you may then, while the tunnel is daily progressing, return to New York, we think, with confidence of success, and we shall use our best efforts to assist you in accomplishing your object.

"Your perseverance and the practical and able manner in which you have presented this laudable undertaking to the public deserve our commendations, and it shall be a source of gratification to us to see your labors crowned with success.

"We are, dear sir, respectfully yours,

"Samuel Willets. Daniel T Willets. J. H. De Bevoise.
"John Silsby. W. S. Martin. Eugene S. Ballin. John
"T. Martin. B. Silliman. Emil Heinemann, Daniel
"H. Temple. J. H. Coghill & Co. J. Perry, Jr.
"Polhamius & Jackson. Mott & Just. Theodore F.
"Lewis. John T. Daly. D. Appleton & Co. Wm.
"Aufermann. Z. Dederick. J. & H. Greenbaum.
"M. Herzog. Moses Taylor. Peter Cooper. August
"Belmont. J. & Wm. Seligman & Co. Eugene Kelly.
"R. C. Fergusson. Wm. T. Coleman. C. K. Garrison.
"Duncan, Sherman & Co. Francis Skiddy. Johnson &
"Lazarus. Wm. B. Ogden. J. C. Fremont. R. L. Cutting.
"David Hoadley. C. P. Huntington. Geo. A. Freeman.
"Sam'l L. M. Barlow. M. Morgan's Sons."

"A. Sutro, Esq."

It is evident that the persons who signed that letter, representing probably $100,000,000, looked upon the enterprise as too magnificent altogether, which created the suspicion that something was behind the scenes, and they naturally wanted a substantial indorsement out here.

So, in August, 1866, I concluded to return to San Francisco, in order to follow out the suggestions made in the aforesaid letter, and submitted the matter to the mining companies and to many of the principal merchants of San Francisco.

While this question was under consideration, the legislature of Nevada which was then in session, passed a memorial and resolutions, asking Congress to loan its credit to this important work, in case sufficient capital could not be secured from private sources, and in a lengthy report set forth its reasons why the nation should feel a deep interest in its execution.

The question as to subscriptions to the Tunnel Company by the mining companies had in the mean time been fully discussed in San Francisco; and after some delay a number of companies agreed to and did subscribe through their trustees sums aggregating together, with subscriptions from private persons, about $600,000, and there was every prospect of seeing them increased in a few weeks to $1,000,000 or more in San Francisco alone.

But now commenced the tug of war; at the very moment when I was on the full road to success, when everybody commenced to look upon the whole affair as quite sure of being consummated, and when I myself was led to think that my struggles were about over, they only fairly commenced.

It was at this time that the California Bank ring stepped in, and in high conclave and in secret session concluded that it was high time to break me up, for my efforts were about to be crowned with success, substitute themselves into my place, reap the fruits of my labors, and, by their influence over the politicians of this coast, obtain the aid of Congress which the legislature of Nevada had applied for.

This conclave was held in San Francisco on the 6th of June, 1867, the night before the annual election of trustees for the Crown Point mine; and when that election took place, in which the former president of the company, A. H. Barker, and their superintendent, Batterman, were turned out, and the bank ring took possession, a subscription to the tunnel of $75,000, which had previously been agreed upon by most of the parties interested, was voted down.

I saw at a glance what was up. The bank, which up to that time had warmly supported me, had now turned against me, and I knew quite well that none of the subscriptions already made by the mining companies would be ratified at their stockholders' meetings. Nearly all the persons who had previously stood by me deserted me; they shunned me on the streets avoided me as if I had

an infectious disease; every miserable cur and hireling of that bank turned the cold shoulder on me—actually afraid their masters might be displeased at seeing them talk to me—and for the first time I commenced to feel and appreciate the immense, overwhelming, and ramified power that concern wields. Men knew, as if by magic, that the bank was now against me; it seemed as if they all had been informed of it at once, and through some invisible power had received their instructions.

It became evident to me that the ring entertained the opinion that their combined efforts must soon crush me out and use me up financially, physically, and mentally, in such an unequal contest. But they had got hold of the wrong man; I was not so easily to be disposed of. When I found that these **traitors**, after having signed contracts, after having urged and helped me on to expend mine and my friends' money, after having induced me to labor almost day and night for several years, which I did with zeal and enthusiasm—I say when I found that they were determined to rob me of my labors, I made up my mind that they should not succeed in their efforts. I was determined that this base, unscrupulous, and mercenary combination should not carry out its purposes, and made a sacred vow that I would carry out this work if I had to devote the whole balance of my life to it, and defend my rights as long as the breath of life was in me.

I soon found that I had no longer any chances on this coast; I knew that my opponents could easily keep those connected with them, directly and indirectly, from having anything to do with the affair, and also knew full well that by throwing cold water on it, or by declaring it visionary or impracticable, they could prevent those not fully understanding its merits from entering into it, and those who did understand it by bullying and threatening them. And how eagerly did the empty-headed, the brainless, the ignorant, and the envious join in the chorus! this same class who have opposed every great work from time immemorial! this same class who opposed railroads, and steamboats, and telegraphs, and sewing-machines! this same class who opposed and fought the Erie Canal! this same class who a few years ago would ask on every occasion whether you expected to live long enough to see the Pacific Railroad completed!

The difficulties and obstacles seemed to increase and accumulate, and almost appeared insurmountable. How was I to convince people of the contrary, when the most successful men in the country told them not to touch the affair? And how easy was it for them to play upon the prejudices of people when I asked them to invest their money; how easy was it for them to throw out a hint that nobody had any confidence in me?

They found no difficulty in getting the gas and water companies of Virginia City, and all the men under their influence, to tell people the town would be ruined; that it would move down to the mouth of the tunnel; that real estate would become valueless, with many other groundless objections. But did they tell you that without the tunnel the mines would be abandoned and ruin and desolation be brought, not only on Virginia City, but upon the whole country?

Fellow-citizens: Have you ever been in a position where your friends shunned you? If you have, you know how mortifying it is on meeting an old acquaintance to have him pass by pretending not to see you, instead of shaking you by the hand and welcoming you. Have you noticed them cross over on the other side of the street when they saw you at a distance? Have you seen their nervous hurry, trying to get off, when you happened to engage them in conversation? You may possibly have made similar experiences if you were ever broke and your good friends were afraid you might ask them for a loan.

In my case some narrow-minded people may have avoided me, thinking I might urge them to become interested in the tunnel project, but these were comparatively few; the mass of these men knew the bank was against me, and that was sufficient for these servile and timid creatures to insult and avoid me. But I looked upon them with contempt; I had the satisfaction of feeling in my own heart that I was working for a good and noble cause; I knew that the execution of the work I proposed would be a blessing to the men compelled to toil in these mines, and of great and lasting benefit to a whole people. So I continued my efforts, believing that truth is mighty and will prevail, and that in the end my enemies must come to grief, and victory should be mine!

I concluded to give up the field, for the time being, to my opponents, return to New York and go over to Europe if necessary, and see what could be accomplished there. In July, 1867, I arrived at the former place, but soon found that after my apparent failure to raise any funds in California, it was useless to waste my time there. Evidences that the war the Bank of California had commenced to wage against me on the Pacific coast should also extend to New York, came under my observation. On the 16th of July, the day after the Savage Company had held their annual meeting, a telegraphic message was received and a placard stuck up in the office of the agents of the Bank of California in New York, Messrs. Lees & Waller, which stated, in large letters, "That the stockholders of the Savage Company, at their annual meeting, had refused to ratify the subscription made by their trustees of $150,000 to the stock of the Sutro Tunnel Company, and that the same was utterly null and void."

This telegram was intended to caution the people of New York against me, in case I should falsely represent that the Savage Company had subscribed and ratified their subscription of $150,000. It was a sort of warning, as if sent ahead of an absconding bank clerk, or forger, or criminal, so that it would utterly ruin my prospects, and coming, as it did, from the leading financial concern of the Pacific coast, it certainly had its effect—it put a damper on my prospects, and I determined to make no further attempt in New York at that time.

It almost appeared to me after this that the only place where I could vindicate myself, and where the importance and magnitude of the proposed work would be properly appreciated, and where, at the same time, the bank would have the least power to misrepresent and fight me, would be in Congress. But Congress was not to meet until December, and this being the latter part of July, I determined upon spending the interval in Europe for the purpose of examining the mines, visiting their big tunnels, consulting some of their great engineers, in order to lay my experiences before Congress, at the same time paying close attention to the facilities which would exist in Europe for securing the required funds. I was supplied with letters of introduction from many of the bankers of San Francisco, which had been furnished me on my first journey east, among which was one from the Bank of California, signed by William C. Ralston, their cashier and chief manager, to the Oriental Bank Corporation of London, recommending me personally and the tunnel enterprise to their English friends as an excellent investment. This letter, however, I did not of course make use of, after what had transpired, and it remains in my possession now.

I traveled through Ireland, England, France, Belgium, Holland, Prussia, Austria, Poland, Hungary, Bavaria, Switzerland, and Italy, visited many of their mines, was received with great courtesy, and came in contact with many of the leading financial, political, and scientific men of Europe. I descended into their deepest mines—the deepest in the world—and after all my investigations became more and more convinced of two things: 1st, That mineral lodes, true fissure-veins, as shown by all experience, descend downward indefinitely; and, 2nd, That in order to work mines rationally and profitably, wherever the topography of the country allows it, great district or main tunnels, which serve as highways under the mountains, must be constructed.

I entered into correspondence and had personal interviews with such men as Von Cotta, the geologist; Weissbach, the engineer; Baron Von Beust, of Saxony; Chevalier, the French senator and political economist; Sir Roderick Murchison, president of the London Geographical Society; John Stuart Mill, member of Parliament; Von Dechens, the friend of Humboldt; Baron Von Hingenau, chief of the mining department of Austria; Burkhardt, Koch, and many others. I submitted my plans to these men, and they unanimously agreed upon the importance, feasibility, and magnificence of the undertaking and addressed to me many complimentary letters.

I found it impossible, however, to raise any funds in Europe for several reasons. In the first place, people there as a general thing have no confidence in our mining laws, as far as security of property is concerned; secondly, they raised the same objection which was raised in New York, that our own people on the spot must first show their confidence by their subscriptions and by commencing work; and, thirdly, at that particular time, if there had been no other obstacle in the way, the threatening attitude between France and Prussia would have prevented the consummation of any extensive financial operation abroad.

I found but one concern, the house of Erlanger & Co., the great bankers of Paris, who were willing to entertain the project at all; but after sending for one of their London partners, they also concluded it to be impossible to carry out the affair at that time.

So I returned again to the United States, and left Liverpool on the 1st of December, 1867, arriving at Washington just after Congress had met. I now commenced to go to work in good earnest; made the favorable acquaintance of nearly all the members of both Houses of Congress, and the leading men of the nation, and had a fine prospect of success.

It soon became known to the bank out here, through information derived from their spies in Washington, who kept close watch of my doings, that the chances of obtaining a loan from the Government were good, which made them feel quite uneasy, and they immediately sent a number of telegrams to different persons in Washington, one of which reads as follows:

"VIRGINIA, *Nevada, January* 15, 1868.

(Received at Willard's Hotel, Washington, D. C., January 16, 1868.)

"To Hon. WM. M. STEWART and JAS. W. NYE:

"We are opposed to the Sutro Tunnel project, and desire it defeated if possible.

"WM. SHARON, CHARLES BONNER,
"*Superintendent Savage Company.*

"B. F. SHERWOOD.
"*President Central Company.*

"JOHN B. WINTERS.
"*President Yellow Jacket Company.*

"JOHN P. JONES,
"*Superintendent Kentuck Company.*

"J. W. MACKEY,
"*Superintendent Bullion Company.*

"THOS. G. TAYLOR,
"*President Alpha, and Superintendent Crown Point and Best and Belcher Companies.*

"F. A. TRITLE,
"*President Belcher Company.*

"ISAAC L. REQUA.
"*Superintendent Chollar Potosi Company.*

This telegram was meant to read as follows: "We are opposed to Sutro getting an appropriation for the Sutro Tunnel; defeat him if possible; that will use him up, and we, Wm. Sharon & Co., will then step in and get it." As a matter of justice, I will here state that the superintendents who signed this document could not well have refused it, and I believe that some of them to-day are warm friends of the tunnel enterprise. It was sheer accident that I got hold of this telegram; how many were sent, together with letters and secret instructions, is impossible for me to tell. I may state, however, that the very next day two more messages arrived in Washington, signed by a number of mining presidents of San Francisco, nearly all well-known tools and flunkeys of the bank, one of which was addressed to John Conness, whilom Senator from California, who, in his eagerness to serve his masters, did not hesitate to openly oppose me.

They took so deep an interest in my affairs that they expended over $100 in two days for these telegraphic messages, while the information they contained could have been conveyed in a letter, more fully, at an expense of three cents.

These telegrams I paid but little attention to. The bank may be a big concern here; at Washington it amounts to but precious little. Whether our Senators were much influenced thereby is hard to tell. I asked no favors from them, and started out to make my own fight.

About this time I published a book of about 250 pages, a copy of which I hold in my hand, containing much information about these mines and others; about the interest Government should feel in the production of precious metals, and distributed 1,000 copies among the members of Congress, the leading men of the country, and the principal newspapers. By getting the book up in elegant style, Senators and congressmen kept it on their centre-tables, instead of condemning it to their paper baskets, as is done with many of the ordinary documents sent to them, and if they did not read it at once themselves, their friends did, who, while waiting to get Federal appointments, had not much to do, and ultimately called their attention to it.

I can best give you an idea of the general argument used in the work by reading to you its introductory, which is as follows:

"The development of the mineral resources of this country forms a subject of such grave importance, one involving considerations of a politico-economical nature of such significant consequences, that it well behooves the American statesman, the patriot who has the future of this great republic at heart, to devote some time to the earnest examination of those questions which have a vital bearing upon the future welfare of this country.

"In the vast regions stretching from the Mississippi River to the broad Pacific Ocean, from the confines of Mexico to the icy regions of the North, there lie buried in the bowels of the earth incalculable treasures of the precious metals, which but await the industrious application of the hardy miner and the fostering care of a provident Government to pour out a stream of gold and silver, which will so much increase the national wealth, augment the resources of the nation, and spread welfare and prosperity throughout the extent of this vast land, that the burdens of taxation will gradually disappear, and make the national debt sink into insignificance. If we contemplate that mighty interest, which can be made to create so many blessings, and find that it is neglected and declining from year to year, we must arrive at the firm conclusion that there is something radically wrong in our present system of mining, and that an immediate, practical and effectual remedy should be applied to rescue from a steady decline and eventual abandonment a source of wealth which must be considered the most fruitful and important one this nation possesses.

"If the facts presented in the following pages are carefully examined, three prominent conclusions will be arrived at:

"1st. That the main wealth of the mineral regions is contained in quartz

lodes, the principal treasures of which are found at great depths beneath the surface.

"2d. That the present mode of mining downwards from the surface is detrimental to the prosperity of the mining interests.

"3d. That a system of deep tunneling should be inaugurated, which will make mining profitable by giving a natural outlet to the flow of water, by ventilating the mines, by cooling the atmosphere, and by facilitating the extraction of ore.

"Mining requires capital, which the western regions do not possess; the Eastern States have an abundance, but not for investment in mining enterprises, which are looked upon with suspicion and are almost considered disreputable.

"Some years ago many persons were found quite willing to embark in mining ventures, and considerable sums were invested; but the experiences made have been disastrous and ruinous to those concerned, in almost every instance. This result has been charged to various causes, but the true one must be sought in the unwise, extravagant, and wasteful manner in which the work on the mines has been performed.

"The construction of deep tunnels, which by all authorities are admitted to be absolutely necessary to make mining operations successful, requires time, and the outlay of large amounts of capital, and consequently implicit confidence in the permanency of the mines.

"It is the lack of confidence in the permanency of the mines (their downward extent to great depth not having practically been demonstrated in the United States) which prevents the execution of such works.

"The Comstock lode, the most productive of all mineral lodes in the world, producing as much silver as the whole republic of Mexico, presents the most extraordinary example, illustrating the ruinous and wasteful manner of our present system of mining. We have a lode here which has produced within the last six years over $75,000,000, and the whole of that enormous sum has been swallowed up by the expenses of producing it. The mines upon this lode have now reached such a depth that, after a few years, they must inevitably be abandoned, provided a deep tunnel be not constructed.

"Great mineral lodes, true fissure-veins, according to experiences made in older countries, extend downward indefinitely; we have the testimony of some of the first scientific men living, that the Comstock lode bears the strongest evidence of being a true fissure-vein.

"Here, then, we have a remarkable state of affairs; a lode yielding $16,000,000 per annum, almost the whole amount being absorbed by the expenses of producing it, while the construction of a deep tunnel, for which extraordinary facilities exist, would leave a large portion of that amount as a profit; the downward continuance of the lode is theoretically, at the same time conclusively, proven, and still we find that capitalists cannot be found to undertake the construction of a deep tunnel, because the ores at great depth are not actually visible.

"Were that tunnel completed to-day, a glorious reality, pouring out a silver stream of $40,000,000 or $50,000,000 per annum, these same capitalists, who first want to eye the riches way down in the earth before they consent to invest, would be eager to enter into similar undertakings in all parts of the mining regions, and tunneling would become the order of the day. The nation would be enriched beyond all expectation, and the benefits to the Government and the people would be incalculable.

"That it is both the duty and the interest of the Government to aid in the construction of one such tunnel to serve as an index-work, and thereby establish the continuance of mineral lodes in depth, cannot admit of any doubt.

"The most favorable opportunity for such a demonstration presents itself in the construction of the proposed tunnel to the Comstock lode; the Government may consistently extend its credit to that work, for almost no risk is involved, the security offered being a hundred-fold. A simple investigation of the subject will prove this conclusively.

"Some thirty years ago a similar question arose in Saxony, when Baron von Herder, then chief of the mining department, as an introductory to a book on the subject, addressed his countrymen in the following words:

"'To the friends of their country do I dedicate the plan of a mining work, the execution of which is of the highest importance to the mining interests of Saxony.

"'It is the plan to drive a deep tunnel from the level of the Elbe, near Meissen, to the neighborhood of Freiberg, in order to drain the water from the mines of that district to a much greater depth than heretofore, and by means thereof to secure their existence for centuries to come; a plan which as to magnitude, time and cost, is large and gigantic, but which appears in its effects and results so benevolent and full of blessings, that the question as to cost should not form an obstacle to its execution.

"'It is true that the resources of the mining treasury of the Freiberg district are too limited to bear these expenses; but the execution of a work which in times to come will be classed in the list of those great national monuments which have for their object the lasting welfare of a country, and which will secure the same for the latest generations and times, cannot be left to the mercy of a single mining district, but should be looked upon as a work creating happiness and glory, and worthy of the participation and promotion of the entire nation.

"'With unlimited confidence do I therefore present to the friends of their country the following explanation and statement of this project.

"'May they extend to it a wise and sympathizing examination and magnanimous consideration, and may they be assured of the fervent thanks which posterity will grant them.'

"The mines of Saxony produced, and now produce, but a mite of what our mines do; the national debt of that country is but small, and the burdens of taxation are not of an onerous character.

"How much stronger, then, should the argument be in the case at issue! A country containing more mines and richer mines than all the balance of the world combined; a country having a national debt amounting to over $2,500,000,000, and a people crying out and groaning under unequaled burdens of taxation!

"Wisdom and foresight point out but one course; let the mineral resources of the country go to ruin, and the national debt, the burdens of taxation, and general suffering will be increased from year to year.

"Let our immense mineral resources be developed, an increase in the value of all property, a relief of the burdens of taxation, unparalleled advancement of commerce, industry and traffic, a bright future, speedy resumption of specie payments, and general welfare and prosperity will be the results.

"Those who rule the destinies of this country have the solution of this question in their hands; wisdom, foresight, liberality, and true patriotism will grasp the issue, and promptly secure those results which will immensely benefit our present generation, and extend its blessings to posterity."

The Committee on Mines and Mining, fully appreciating the impetus which would be given to the development of our great mineral resources by the construction of this tunnel, after a most thorough investigation, perfected a bill recommending a loan of $5,000,000, in twenty-years seven-per-cent. bonds, to be delivered at the rate of $15,000 for every 100 feet of tunnel completed. To show how thoroughly this committee understood the importance of the proposed work, I will here give an extract from their official report, published by order of the House of Representatives, in which they say:

"Your committee considers the execution of *one* great mining work, such as the proposed tunnel to the Comstock lode, as conducive to the most beneficial results; it would practically demonstrate the continuance of mineral lodes in depth, thereby establishing confidence in the execution of similar works in all the mining districts.

"Writers on mining agree on the importance of general drain-tunnels, and the best proof of their utility is shown by the fact that in those mining districts where a general and extensive system of drainage by tunnels has been adopted, the mines have been kept in a flourishing condition during hundreds of years, while in those places where no tunnels have been made, mining operations have proved unprofitable, and the mines have been abandoned.

"We find in all mining codes provisions for the construction of tunnels; they were, in olden times, called 'the keys of the mountains,' and under the laws of Spain, Belgium, Prussia, Austria, Hungary, Saxony, Hanover, and other countries, compulsory payments toward the support of drain-tunnels were exacted from the mine owners, in order to keep up the mining districts.

"Gamboa, the great expounder of Spanish mining law, in speaking of the neglect of the justices to enforce the construction of tunnels, says:

"'By indulging in this neglect of their duty they do injustice to the public, to individuals, and to the rights of the Sovereign, who has made it a law that the working of the mines shall be assisted by means of tunnels, as being works of great importance, and necessary for giving a permanent character to this valuable description of property.'

"General drain-tunnels are important in many regards; they not only provide the cheapest and safest means of drainage, ventilation, extraction and discovery of ore, but they accomplish the great and very important result of consolidating the different interests in a mining district, by establishing one general base of operations.

"As mines are worked now, the proprietors or companies, on a mineral lode no matter how limited the extent of the claims—each, independently of their neighbors, erect a steam-engine, pump the water from their mines, hoist the ore, and transport it to the reduction works; they boast of independent organizations, presidents, boards of trustees, superintendents, secretaries, &c., kept up at an enormous expense, which makes mining unprofitable and a losing business.

"In large cities we find it necessary to establish a joint system of drainage, gas and water works. Main sewers are constructed, into which small branches enter from every building. Supposing each house-owner were to provide his own drainage, independent of his neighbors, establish his own gas manufactory, and dig a canal of his own from a distant spring, in order to get a supply of water, the world would pronounce such proceeding very unwise and foolish.

"And still we find a similar state of affairs in our great mineral districts: a contiguous row of mines on the same lode, each worked independently and entirely regardless of its neighbors, while one general tunnel, or adit, or drain, would allow the water to run off by its natural flow to the lowest level, from all the mines, through one common outlet, thereby abolishing at once all pumping-machinery, giving one common railroad for the transportation of all the ore, and creating innumerable advantages. Only one general mining administration would be required, operations could be carried on jointly and systematically, the extraction of ore largely increased, the health of the miners secured by good ventilation, and large sums of money would be saved, thereby making it possible to extract immense bodies of low-grade ores.

"In short, instead of an unwise, short-sighted, ruinous, and stupid manner of proceeding, we would inaugurate a rational system of mining, a system which would make it profitable, attract the capital which is absolutely necessary for the development of this branch of industry, increase the production of the precious metals beyond all expectations, populate the vast extent of our mineral regions, procure traffic for our trans-continental railways, stimulate the commerce and industry of our whole nation, firmly establish our credit by proving the extent of our mineral wealth, and, above all, relieve the burdens of taxation by increasing the value of all property.

"Such are some of the advantages which, in our opinion, would be derived from the adoption of a general system of tunneling in our great mining districts; and it must appear remarkable that such tunnels, their advantages being so self-evident, have not already been constructed in numerous places."

The measure grew more and more popular, in spite of the secret efforts of the California Bank, and would, no doubt, have passed with a three-quarter vote of the House, had it been possible to reach the Committee on Mines and Mining in the regular order of business.

Unfortunately, when we were almost within reach of the bill, the impeachment trial of Andrew Johnson commenced, and before its weary length was terminated, it was so late in the session that our committee never was reached at all, and consequently the tunnel bill had to go over.

Congress adjourned late in July last year, and I returned to California somewhat disgusted with my ill luck, but never for a moment losing my confidence in ultimate success. Before I left Washington many letters were addressed to me by members of Congress, expressing their regret at my bill not having been reached, and giving it as their opinion that at the next session it would certainly pass. Among these was one from Thaddeus Stevens, one of the very best friends the measure had, who stated that at the next session he would warmly support it; but the old man did not live to see another session; he died within a fortnight.

After spending a few weeks at New York I returned again to California, from whence, after remaining a couple of months, I once more proceeded to Washington to renew my efforts.

In the mean time General Grant had been elected President of the United States, and the misunderstanding which existed between him and Andrew Johnson prevented any special legislation, which, as was stated, might embarrass the former's administration. So Congress concluded to enter into no legislation whatever, with the exception of the passage of some appropriation bills necessary for the support of the Government, and thus the Fortieth Congress expired without acting on my bill.

The new Congress convened on the 4th of March last, under good auspices, and General Grant, in his inaugural, referring to the payment of the national debt, alludes to the importance of developing our vast mineral resources, and speaks of the treasure-chest which Providence has provided us, buried in our western mountains, for which we must forge the key now to unlock. After a short session of a few weeks Congress adjourned until next December, when, for the first time, I expected to get a fair chance to bring my bill up and have it thoroughly discussed.

I have but little doubt but that, notwithstanding the great efforts the California Bank will make to control the action of both our Senators, they will firmly stand by the people, and use all their influence for the accomplishment of this great work.

In the mean time I have come out here among you, my fellow-citizens, in order to explain to you all about this tunnel business, and while some of the moneyed men of San Francisco look upon the whole thing as a failure, not knowing anything of its history, nor of the great fight of the California Bank ring against it, and which erroneous opinions also many of you entertained, I have more confidence in its success now than ever.

Fellow-citizens, I have come among you to propose to the working people of Nevada to join in together in order to start work on the tunnel itself, and thereby give me that solid indorsement at home, from those who live on the

very spot, from the men who work in these very mines, and who are supposed to know most about it, which I have lately sought in vain from the mining companies and from the people which should be most deeply interested. Your solid indorsement will be valued highly at Washington; it will annihilate the efforts of that scheming combination, the California Bank.

Fellow-citizens, it must now be evident to you that the arch enemy of this great work is that hydra-headed monster you have reared in your midst, and allowed to grow into gigantic proportions; that enemy of the welfare of the whole Pacific coast; that incubus upon your prosperity; that crafty concern which resorts to every means to carry out its ends. And why do they oppose the tunnel? Why do they all in their power of cunning and scheming and planning to defeat it? Why are all their satellites and hirelings told they must defeat and oppose the tunnel project with all their might and power, by fair and by foul means? Why do they threaten to discharge their employés if they take a hand in it? And why are they compelled to do all this in the darkness of night? Why is it they dare not make their motives known?

Fellow-citizens, let me enlighten you. Allow me to pierce that darkness and let in a ray of daylight; let me explain to you why these men so bitterly oppose a work which in them, the ostensible owners of the Comstock lode, should find the strongest advocates; let them show to you why they have turned to be the guardians of the Treasury at Washington; let them tell you why they tremble with fear lest work on the tunnel be started; let me explain to you why they make you work in a foul atmosphere, which sends half of you to your graves in the prime of manhood; let me show you why they have allowed forty-two of your miners to be foully murdered at the fire of the Gold Hill mines for the want of an exit through the tunnel; and let me show them to you in their true colors, and them hold them up to the shame, contempt, and ignominy they so richly deserve.

In order to do so I must enter into the details of some of the operations of this clique which rules and controls these mines, and apparently are the absolute owners of a controlling interest in this vast and important property.

Many of you will be utterly astonished to learn that neither the bank nor the mill ring, as a general thing, own more than a few shares in each mine—just about enough to be elected trustees of the companies, while you, the miners and residents of Virginia City, do always own a large amount of stock, and sometimes a controlling interest, in many of the mines. I do not wish to say that the bank ring has not at different times owned large amounts of stock for a number of months, but that was only in such mines as the Savage and Kentuck, for instance, during the years 1867 and 1868, as were then in a magnificent condition, and paying large and regular dividends. But you will say, How is it possible that they can control the elections, put in men of their own ring as trustees, and manage and manipulate these mines as they please, to further their own ends, if they do not own any stock?

That is precisely where the secret lies, and where the public gets gulled and swindled and humbugged, and allows this clique, by sharp practice, to carry out its nefarious schemes.

You all know that there is an institution in San Francisco called the Bank of California; they have a branch house in Virginia City, over which William Sharon presides. The principle upon which this concern is carried on is to get deposits from as many people, and in as large amounts, and from as many quarters as possible; that is where their power lies! Their capital stock is $5,000,000, with which they do a business of many millions more. They loan out a great deal of money; whether they loan out any of their depositors' money we don't know; but they loan out a great deal; they loan a great deal to their individual members, who are engaged in extensive speculations; some of them pay, but a great many do not; that money is scattered all over creation, and whether it is probable that they could pay all they owe, should they be called upon, I doubt very much. Money in a good iron safe, or deposited in some of the solid banks of San Francisco, might be a great deal securer. I shall, however, revert to this more in detail on some future occasion.

Among other things, they loan money on mining stocks. The Virginia agent keeps the San Francisco bank well posted on the value of each particular mine, and on the special manipulation going on in it; daily telegrams and letters are sent on the reports of special experts kept for that purpose. This information, which is withheld with the utmost secrecy from the public, enables the San Francisco concern to advance money on stocks, and to brokers, without much risk, while no other bank or moneyed institution dare touch it. Now let us see how this operates; all men who deal in these stocks are more or less of a gambling disposition; they put in a little money and want to make a great deal; they almost always go beyond their means; they buy a certain number of shares, carry them to their broker, or to the Bank of California, borrow as much money as they can get loaned on them, in order to enable them to buy more, and are compelled to transfer their shares—not to the bank, for that would make it responsible for any debts which might be contracted by the mining companies, but to one of their irresponsible clerks, A. E. Hill, for instance, whose name figures quite extensively in the delinquent lists, and whose name only stands for that of so many miners or other individuals. Thus that bank clerk has a large amount of stock standing in his name, without owning a share, and no outsider knows whose stock it is. This is one way the bank obtains control of a large amount of stock both at San Francisco and at Virginia; but by far the greatest part comes under their control in a still easier way. Most of you miners and others who speculate in stocks go to a broker, deposit your money and get him to telegraph to his partner in San Francisco for a given number of shares in a certain mine; the purchaser here never sees that stock; it is issued in the name of the broker, for to issue it in the name of the purchaser causes delay, inconvenience, and expense. Many of these brokers receive accommodations from the bank, and are consequently under obligations to them; many others are simply convenient stool-pigeons in the hands of the bank ring. Now what is the result of all this? When the annual election comes off in a mining company the managers of the bank hold a sufficient amount of stock in their hands as collaterals, together with the proxies they obtain from brokers, who represent the miners and others, so that they can almost invariably step in to an election and cast this vote for a set of trustees which have previously been made up in the back office of the California Bank. And who are these trustees? About a dozen of them compose the trustees in nearly all the mining companies, and a majority in each company are either under the thumb of or mere tools of the bank, and if you were to examine the books you would find that most of them do not own more than three or four shares apiece. And these few miserable shares even do they not in many instances own at all, but they are simply loaned them, and transferred to their names so they may act as trustees. These are the men whom you allow to manage your property. In order to throw sand into people's eyes, one or two trustees are usually elected who bear a high reputation for integrity; and so adroitly are the affairs of most of these companies managed between the majority of the trustees, the president of the company and the superintendent, that the minority of the board often do not suspect even that anything is wrong, and thus lend their names to the most nefarious schemes for entrapping the public.

In some instances the bank ring cannot obtain sufficient stock in the manner indicated, and then they are compelled, although reluctantly, to purchase a sufficient amount temporarily to make up a majority until after the election. To show how much value is placed in getting the management of a mine, considering that the trustees receive no salary, you need only look back to the election of the Hale & Norcross a little over a year ago, when the bank ring paid as high as $16,000 per foot, while the true value was less than $2,000.

In this manner the ring, without owning a share of stock, or but very little, obtain the management of these mines and become your masters, while you are, to a large extent, the owners of the property. They become the absolute tyrants who rule over you, and threaten to discharge you if you do not dance according to the tune they fiddle. They arrogate to themselves the power and dictate to you, the proprietors of these mines, what shall be done; they regulate the amount of your wages; employ and discharge you as they see fit, and even threaten to turn you all out and employ Chinese in your stead. Of course, they lose no opportunity and embrace every occasion to impress you with the pretended fact that they own a very large amount of stock in all these mines. Go and examine the books, convince yourselves, and then wonder how such unblushing falsehood, based on brass and impudence, could have existed so long and not be exposed.

Now let us see how their control of the mines further operates: there is a concern called the Union Mill and Mining Company, supposed to be composed of just about the same men as control the California Bank and the mining companies. At the head of that concern, at Virginia City, is the agent of the California Bank. Somehow or other this mill association has gobbled up all the valuable mills in the neighborhood, and, as is stated, by paying but a very small portion of the cost of them. Most of these mills were erected by private individuals, depending on a supply of ore from the companies on the Comstock lode. As indicated above, the bank ring obtained control of nearly all the mines; it was, therefore, an easy matter for them to furnish such mills only with rock as they saw fit. In this manner some mills, especially those whose financial affairs were not very sound, could get no supply of ore. In trying to keep running on small supplies from outside mines, and here and there on temporary supplies from the Comstock lode, which was furnished them in order to varnish over the manipulation then progressing, their mills would stand idle a portion of the time, which involved them in debt. They had to borrow money from the California Bank, the only moneyed institution at Virginia City, which had a policy of being remarkably accommodating in such instances. The poor victim taking that money signed his death warrant. As soon as he became thus indebted he could somehow or the other obtain no more ore for his mill at all; he could not pay the interest on his indebtedness; and after a few months the mortgage on his property costing, say $100,000, would be foreclosed for about $20,000, utterly ruining him.

In this wise the mill ring or bank became possessed of nearly all the valuable mills in the neighborhood, costing millions of dollars, at a comparatively trifling cost to them.

Now, mark the result. The same ring is managing the bank, the mills and the mines, but own but precious little interest in the latter. Of course they are sure to make all the money out of the mills, even at the expense of the mines. Mills with a capacity of 1,000 tons per day must be kept supplied at all hazards. The price of crushing is fixed at $13 per ton, by the mutual agreement of the same crowd; this leaves a profit of $7 per ton, or $7,000 per day. If a mine does not furnish rich ore, poor is sent to the mills, for they must be kept going. If that runs the mine in debt, how easy is it to put on an assessment, and make you, the stockholders, pay the loss, or, in other words, turn over the amount thus collected into the pockets of the mill association. If a mine has some rich ore, but only a limited quantity, how easy is it to intermix a sufficient quantity of bed-rock in order to increase the number of tons to be worked. Is is asserted, and can be substantiated by many credible witnesses, that thousands of tons of ore have gone to the mills which paid as low as $5 per ton, while it costs $20 per ton to mill and mine it, thus taking $15,000 out of your pocket for every 1,000 tons worked; that is to say, in twenty-four hours (1).

But this is not all. There is still another way by which you are victimized. Supposing the superintendent and foreman of a mine are pliable tools in the hands of these cormorants, how easy is it when a rich body of ore is discovered to keep it secret, and instead of taking it out start the miners going in a wrong direction, taking out inferior ore or bed-rock, sending it to the mills, involving the mine in debt, necessitating assessments, and thus depreciating the stock. And how simple is it for the ring to gobble it all up again quietly while it is down, and after a large amount of it is secured to set all the men to work that can find room and take out the good ore, make a great noise over it, declare large dividends, send up the stock, and then quietly step out and pocket a million or so.

How many of you have been bitten in this manner? What show have you when the cards are stocked on you? Have you ever seen a cat play with a mouse? It lets it run a little piece and then catches it again, and repeats the experiment a number of times, to its great delight and amusement; but did you ever know it to fail that the cat ate up the mouse in the long run?

A few of you make a good strike once in a while by sheer accident; that keeps up the excitement, and so you keep all gambling in stocks, pay your assessments, and in the end you will all be eaten up like the poor mouse. There is no guess-work about it; it is a sure thing.

There is still another item connected with these mines which is worth while looking after. The parties managing them of course have control of the funds of these concerns, and the handling of a million of dollars or more, year in and year out, is an item not to be despised. If the ring is hard up, as the case is now, why it is an easy matter to slap on an assessment of a quarter of a million or so, and thus make the people come to the rescue of their empty cash-box.

These great financiers who have undertaken to regulate the money affairs of this coast, with all their scheming, and notwithstanding the immense sums they have filched out of the people, have arrived at a point where bankruptcy stares them in the face. The California Bank, with a capital of $5,000,000 and a surplus of $2,000,000, cannot loan out a dollar to any one at the present time. What have they done with all this money? Where is it? If they are solvent why can't they accommodate the public now when it is most needed? They have kept out greenbacks in order to prevent eastern capital from coming here, and now reap the fruits of their folly. While they have ruined themselves, they have brought untold hardships unto this people in the present crisis. Their last bearing operation has recoiled upon themselves; stocks and all property have gone down beyond their control, for they did not have the sagacity to foresee that the bubble which had been growing for the last six years, in anticipation of the Pacific Railroad being finished, would burst in the act of driving the last spike. They fondly hoped that eastern people would flock out here with full money-bags and invest at the inflated prices. They did come, and saw at a glance the game which was put up for them, and declared they would come back in another year and invest at twenty cents on the dollar, when they were all broke out here. So much for their financial capacity.

But the ring, not yet satisfied with all these manipulations, and with an unsatiated desire to draw the very last drop of life-blood from the people, has lately entered into another scheme of pilfer. I refer to the Virginia and Truckee Railroad. Not satisfied with controlling the mines; not satisfied with owning the mills; not satisfied with all the plunder obtained before, they came to the conclusion that a railroad to the Carson River, where their mills are mostly located, would be a good thing. They not only thought that by owning such a road they could drive all the teamsters out of the country, and thus

(1) Will the Comstock Tunnel bondholders figure (*if this is correct*) how much *Theodore Sutro's proposed compromise in lieu of the 1 dollar royalty* (*viz* 4 % of the net bullion products of the mines) will amount to?—J. A.

squeeze two or three dollars additional out of every ton of ore transported over their road, but they also expected to monopolize all the wood and timber trade, and charge whatever price they please to the mining companies. But while they were accomplishing all this, and opening up a new source for plunder, their great motive for getting up this railroad scheme was that they expected thereby to kill the tunnel project, at least for some time to come. Of course they could not pretend that a railroad to Carson River would drain or ventilate the mines, or abolish the steam-engines, or explore the whole country, but they did falsely pretend that all the low-grade ores could be extracted, and with the increased facilities for transportation, reduced to advantage. If they did not expect to make people altogether believe that the railroad would be a substitute for the tunnel, they did at least expect that this threatening tunnel question would be postponed thereby for another year or two, with so much additional chance of seeing me used up by that time.

But to build a railroad costs money; and being accustomed to obtain whatever their heart desires from the people, they concluded to own a railroad and have the dear people pay for it.

Being the trustees of the mining companies, it was an easy matter to subscribe to themselves such amounts as the stockholders would possibly stand—some of the mines levying assessments in order to raise the money. Thus, about $500,000 were contributed, for which the trustees, before long, will be held responsible, as an act on their part entirely unwarranted and illegal. But this amount was not sufficient to build the road, so it was concluded to get the legislature to come to the rescue. Bills were passed—God only knows how—and Storey, Ormsby, and Lyon Counties were compelled to give and make a present to the ring of bonds amounting to $575,000. The people were misled, in the first instance, by the false title of the Virginia and Truckee Railroad, and in their anxiety to obtain a connection with the Central Pacific, which lies north of Virginia City, they overlooked that the bill passed by the legislature was for a road to Carson River, in the opposite direction. Was there ever such a swindle perpetrated before on any people? Every man and woman in these three counties compelled to contribute their hard earnings to meet the interest and principal, amounting to over a million of dollars, and which will ultimately swallow up all your private property, for bonds issued to a railroad which will not be one particle of benefit to the people, but only to a clique of men, the self-constituted rulers of the people. But whom the gods wish to destroy, they first make mad. That railroad business was too much for the people; it has opened their eyes, and the remedy will be found; they will assert their rights and throw off the yoke of their oppressors.

Steps should immediately be taken to prevent the issuance of these bonds; the law is clearly unconstitutional, and no court in this State will dare to sustain it. If the legislature had the right to compel you to give away $300,000, why, they would have the same right to compel you to give $3,000,000; they would have the same right to take all you possess. The thing is too absurd to require any argument. Stop the payment of these bonds, and you compel the ring to finish the railroad from their own means, if they have any; then start the tunnel going, and you will break them up altogether, for they will not be able to sell out their railroad stock, as they expected to do by next spring, by running immense quantities of low-grade ores down to the mills, and thus make a big showing as to the profits of the road; in making that showing they expected you to foot the bills, by paying assessments to make up the loss sustained in working the rock, which must run the mines in debt.

Fellow-citizens, do you commence to understand why this ring oppose the construction of the tunnel? They have thus far had things their own way and have with a high hand grasped and taken everything worth having in the State of Nevada; they, like the devil-fish, have reached out their long, slimy arms and taken hold of everything within reach, and nothing can escape its deadly grip. Do you think for a moment that they would allow so valuable a property as that of the Sutro Tunnel Company to escape their notice? Do you suppose that this clique, whose ideas of mine and mine are very confused, would not go to every exertion to obtain so great a prize by intrigue, machinations, and scheming? Do you suppose they would allow a superior power to spring up in their very stronghold, and not make every effort to destroy it? And do you believe that they would allow it to grow at all, but that they would nip it in the very bud?

The tunnel, they know full well, is the key to this mountain and these mines, and will and must control and own this whole district; if that tunnel is constructed by third parties, their monopoly will be utterly broken up and ended. They could then no longer bull and bear stock, manipulate the mines and mills, and their railroad would be of but little use.

Now, what course have they pursued to defeat the construction of the tunnel? Have they opposed it openly? By no means. They considered that the projector, with limited means, not being able to cope long against so gigantic a monopoly, would soon succumb, and, worried and defeated, would be compelled to turn over his valuable franchises and property into their hands, together with the chances for an appropriation from Congress, which they expected to obtain through their political friends without much trouble.

They have, however, this time been mistaken; they expected me to give up in disgust in less than six months after their relentless warfare commenced, and I have successfully stood up against that overwhelming power for several years, and have not been quite crushed out yet.

Will the people of Nevada see me crushed out now? Will they allow that monstrous combination to trample me under their feet? Will a chivalrous people allow one individual to be set upon by a whole pack of hounds? Will you see fair play when one man has the pluck to stand up against a crowd? Will you come to the rescue when I appeal to you, in my endeavors to carry out a great and good work? I believe I need not make the appeal, for I know you will.

Laboring men of Nevada, shake off the yoke of slavery and assert your manhood. The same power which has thus far defeated the tunnel project is crushing you down into the dust; they threaten to take your bread and butter from you if you subscribe to the tunnel stock; but you must act jointly, and there lies your power. If you will all come in together, they dare not discharge you; let three thousand laboring men pay in an average of $10 per month, which gives you $30,000 per month, or $360,000 per annum, and insures the construction of the tunnel, carrying with it the control of the mines. That amounts to 33 cents per day. Who is there among you so poor as to miss it? How many of you expend that much every day in stimulants, cigars, and other luxuries? Put that money into the tunnel; it is laying up something for a rainy day. The money will be expended directly again in labor among yourselves *under your own direction*, and from dependents you will become masters. It will be the most glorious triumph of labor over capital. It would be realizing the wildest dreams of the French socialists, Proudhon, Le Blanc, and others, who have in vain tried in Europe to bring about just such results. The masses there do not possess the intelligence you do, nor was there ever such a chance offered to the people. Show your superiority here and act promptly. Set an example to the world, demonstrating what can be done by joint action. Do not listen to your enemies. They have vile, miserable runners among you who will try to poison your minds; they will try every means in their power to prevent you from entering into so magnificent a project, which will make you masters of the situation and leave your opponents out in the cold. They will argue with you and declare it not feasible; they will pronounce the whole scheme chimerical; they will tell you that you are wasting your money and that it will be misapplied; they will say to you that the whole thing is a swindle.

Workingmen of Nevada, men who talk to you in that way are hired by the Bank of California. They are **traitors** in our ranks. They are your base enemies, who have sold their honor and want to sell yours for so many dollars and cents. There may be some among you who do not fully understand the results which will flow from the work; let the most intelligent ones make it their duty to enlighten them.

Laboring men of Nevada, crush out that hydra-headed monster, that serpent in your midst—the Bank of California. By forming this great co-operative association labor and capital will be linked together. Your power will be unlimited. No more hireling politicians will be thrust upon you in order to misrepresent your interests; you will be a great political power, and will rule the destinies of this State; everybody will bow down to you; you will be the masters of the land; the newspapers will advocate your cause; and from a state of utter dependency, from a state in which you are fearful from day to day to lose the means of your very subsistence, you will pass over, for the first time, into a true state of independence.

Fellow-citizens, were there a foreign enemy at your doors, who had come to crush out your liberties, break up your government, and with a high hand rule over you, who is there among you who would not sacrifice his life, his fortune, and pledge himself upon his sacred honor to crush out and defeat so vile an enemy? Who is there coward enough to stand back and not defend his home and hearth? None, I dare say.

And still that enemy is in your midst. You allow and have allowed him to exist among you until he has gradually stolen your liberties, robbed you of your fortunes, and prevented the administration of justice. Trifling were the encroachments committed by England upon her American colonies when they rose up in their might, threw off the yoke, and formed these United States, compared to the indignities which are daily heaped upon you. What has become of justice? What protection have you any longer in the possession of your property? **The enemy who has spun his web around you until you are almost helpless, has bribed your judges, packed your juries, hired false witnesses, bought legislatures, elected representatives to defend their iniquity, imposed taxes upon you for their private benefit.** outraged common decency, and now dare you to expose or oppose them. Has it come to pass that a free community of this great American nation has degenerated into a set of miserable cowards? I believe not; the enemy has stolen in among you stealthily and gradually; he has enslaved you without your knowledge; he has crept in while you are asleep.

Rouse up, then, fellow-citizens. You have no Andrew Jackson among you to crush out the bank which has taken your liberties, but you have the power within yourselves. I do not mean to incite you to any violence; I do not mean to have you assert your rights by riot, force, and threats. That would be unwise, unnecessary, and would only recoil upon yourselves. But I do mean to say that you can destroy your enemy by simple concert of action. Let all of you join in together to build the Sutro Tunnel; that is the way to reach them. They do already tremble lest you will act; they know you will form a great moneyed power, and that you will own the mines; they know it will cement you together.

They also know full well that the first pick struck into the Sutro Tunnel will be the first pick into their graves; and they also know that the same stroke of that first pick will be the signal for a new era which will dawn upon the working people of Nevada.

Fellow-citizens, you are poor and cannot squander any money; the vampires have nearly sucked you dry; but the tunnel stock is a good investment; the shares are unassessable forever **so as to protect the poor men**; one share is as secure as a thousand. The tunnel company owns a princely domain; thousands of lots will be sold in the new town; we own the most valuable mining grant in the whole world; all the mining companies are compelled to pay tribute, amounting to millions of dollars per annum. In buying a share in the concern you absolutely own it; nobody can ever assess you one cent; you own your share in all the property the company now has or will ever possess; you will own your share in any appropriations the Government will ever make. Some of you will say you are not going to stay long in the country. That makes no difference; it is a good investment, no matter what part of the world you are in; you pay $5 and get an interest, or a share of $10 in the company (1).

When the tunnel is once finished, and probably long before, the company's income will be immense; it will probably declare dividends sufficient to pay for your investment every year. A few thousand dollars invested in the tunnel stock now may give you an income to support you the balance of your life; it is not, like most mining enterprises, of a temporary character: it is a work which comprises a whole district; all mines have to pay their *pro rata*; if one mine runs out of ore, another one will make a new strike; and so you may expect a steady income from your investment during your lifetime, and probably that of your children.

The stock is not transferable for the present; that is necessary to keep the Bank of California from controlling it; that is necessary for your own security; I would not advise you to invest in it were it otherwise, for it would be beyond my power to see you protected. If the requisite capital is once obtained,

(1) These are the shares described by Theodore Sutro in his address to the *Comstock Tunnel* shareholders September 8th, 1890, as the "worthless shares" of the old Company.—J. A.

and the company incorporated, then the stock will be made transferable : it will then be beyond the power of any moneyed institution on this coast to injure us. **The stock or receipt you get is signed by me as agent for the Sutro Tunnel Company, under special powers derived from all the trustees of the association : besides, the title to our land, and mining grants, and other privileges, were made by Congress to me individually, in trust for all concerned, for the purpose of facilitating the transfer of all or any part of our property. Any document, therefore, signed by me will convey to you a full and clear and unincumbered title to the interest you obtain, which can never be assessed.**

I am satisfied that three thousand, nay, five thousand men can be found in western Nevada to save up ten dollars per month for investment in the tunnel; then you have the eastern part of this State and the State of California. You have the whole Pacific coast, and, if necessary, the Atlantic States, to come to your assistance.

But one waits for another to see whether a sufficient number will come in. That will not do ; you will never accomplish anything in that manner.

It is true, nobody proposes to enter into bonds. If old Comstock had waited for somebody to sign bonds before he put his pick into the ground, he would be waiting yet. If you refuse to educate and clothe the boy until you see whether he is going to grow up, he will not be fit for much when he is a man. If you do not prospect a mine until you have made a fortune out of it ; if you will not go into the water until you learn to swim ; if you will not take the first step until you are within sight of the end of your journey, this life would be a very short horse and soon curried. Fancy the tunnel done, a glorious fact, and see how small all such objections will look. If there is a motive to begin the tunnel, how much greater is it to finish it. The whole secret lies in starting it going. Get the sharp end of your wedge fairly inserted, then drive away, and every blow will tell.

Come forward, then, and subscribe your names; pay in your money promptly. If you can spare but $5 this month, go up to the office and put it in. Some of you will put in $100. We have sufficient money in the treasury now to commence work within a few days. Come at once, then, and you will prove your friendship for the cause.

If my individual efforts have been sufficient to induce many of you to come in, how much greater will be our influence and strength when several hundreds, or even thousands, are interested. How much greater will be our influence at Washington, and how much greater the chance of obtaining the subsidy asked for.

Do you have any fear the work will ever stop again after it once starts ? I have none myself. When that tunnel is daily progressing, with chances of striking rich veins at any hour, everybody will want to invest ; everybody will then be the friend of the enterprise. When people see it is going to go, they will all say they knew it would. You will no longer be able to find any one who ever opposed it ; the newspapers will all come out for it ; the excitement will run high, and in a very short time people will be eager to invest at double or triple the price.

So much, then, for the dollars and cents view of the question ; but let me revert once more to the other, which is by far the most important.

Supposing, then, your contributions were outright gifts to the cause, would you be the loser ? I think not.

Miners and laboring men, what is the price of your health, your liberty, your independence ? Are they not worth more than all the filthy lucre you could possess ? Who is there among you so avaricious as to refuse to give and donate outright a few paltry dollars per month to a cause which will elevate your race, secure your health, your liberty, and your independence? A cause which will insure to you liberal wages ; a cause which will effectually settle that vexed Chinese question ; a cause which will make you the power of this land, make powerless your oppressors, and break up your arch enemy, the California Bank. I say, who is there so blind as not to see the magnitude of the question ?

Let a noble rivalry spring up among you who shall come in first ; drop all prejudice ; let all trifling objections fall to the ground ; let one excel the other in magnanimity ; let all make one joint, grand, unanimous effort, and victory will be ours.

VI.

WORK STARTED ON THE SUTRO TUNNEL

In September, 1869, work on the tunnel was begun. The miners, however, were poor, and could only pay small sums at a time. The following extracts from letters, written after the beginning of the work, will speak for themselves :—

JOSEPH ARON, Esq. VIRGINIA, October 1, 1869.

Friend Joe,—My speech has no doubt made a sensation down there, as it certainly has throughout this State. We are working away on the tunnel, and expect to collect several thousand dollars in a few weeks ; money comes in slow yet, for people are very poor up here..... I think we will be able to go right ahead with the work ; please do not bother my cousins (1) about my affairs ; they know nothing about them ; I have never asked them to interest themselves in my behalf. Very truly, your friend.

ADOLPH SUTRO.

JOSEPH ARON, Esq. VIRGINIA, October 17, 1869.

Friend Joe,—.....Try to see Mr. Sharp, he is a man of fine intelligence and of great influence ; if he would take hold of the matter, why he could raise for me 50,000 dollars in one day. Please do see him ; *my whole future depends now on that one thing ; if I were to stop again on the tunnel it would ruin me.* Yours truly, ADOLPH SUTRO.

JOSEPH ARON, Esq. VIRGINIA, October 20, 1869.

Friend Joe,—. . . . . I am under heavy expenses this month ; after this month is over they will be much reduced, for as soon as we get fifty feet of the full-sized tunnel, 14 by 12, we commence on the small preliminary tunnel, 4 by 6, **which will not cost over $10 per foot**, and I shall probably let out a contract. I want a piece of full-sized tunnel so as to show what it will be like, and have ordered all the necessary timbers for the same. Then we are putting in a track now and cars, all of which is quite expensive.

I shall try to make all the collections here I can this and next week, and shall then come to San Francisco about the 5th of November and see what can be done there. I think I shall be able to collect a considerable amount down there, provided our friends will assist me some.

In the meantime it may be possible that I shall require $800 to $1,000 by the 1st inst., in order to settle up all accounts before I come down there ; will it be possible for you to get it for me, so that I may have it in case it should be required ? Please tell me in your next letter. I am under so many obligations to you that it goes entirely against my grain to ask any more favors of you. Very truly your friend, A. SUTRO.

JOSEPH ARON, Esq. VIRGINIA, NEV., October 30, '69.

Friend Joe,—. . . . . In my last letter I enquired of you if it be possible for you to raise for me, say $800 by Nov. 1st I did not know then whether I would fall short in our monthly settlement, or how much. I know now that I will be short, say $500, our pay-roll and other bills amounting to $2,000, and the above amount cannot be collected by the 5th of Nov. Now, the fact of it is I feel as if I would injure my prospects here very materially by postponing the payment of any bills ; it would cripple our credit very materially in the outstart. . . . . My cash on hand amounts to $1,550, and as stated above, it is very material I should have $500 more. Money here is so scarce that you cannot hardly get any at all.

While I ask this further favor of you with the utmost reluctance, I do so anyhow, for I know you *can* raise that amount for me, and by doing it you relieve me from a world of anxiety and annoyance.

Please telegraph to me on Monday morning whether I may draw the amount on you. Very truly your friend, A. SUTRO.

JOE ARON, Esq. VIRGINIA, NEV., Nov. 1, 1869.

Friend Joe,—Your telegram of this morning was truly welcome to me ; though I have considerable subscriptions they pay no bills, and to collect money by 5 and 10 dollars from poor people is slow work, and above all do I care about sustaining my credit just now.

I can now pay all bills due this month, and next month will provide for itself, for I think we have sufficient secured for that. In the meantime I expect to stay in three weeks in San Francisco, which will tell.

I have drawn on you to-day order W. F. and Co. for 500 dollars, which will reach me just on the 5th, when I want it ; I had to pursue that course for nobody discounts or cashes any drafts here now.

Let me thank you once more for your consideration, and believe me yours very truly, ADOLPH SUTRO.

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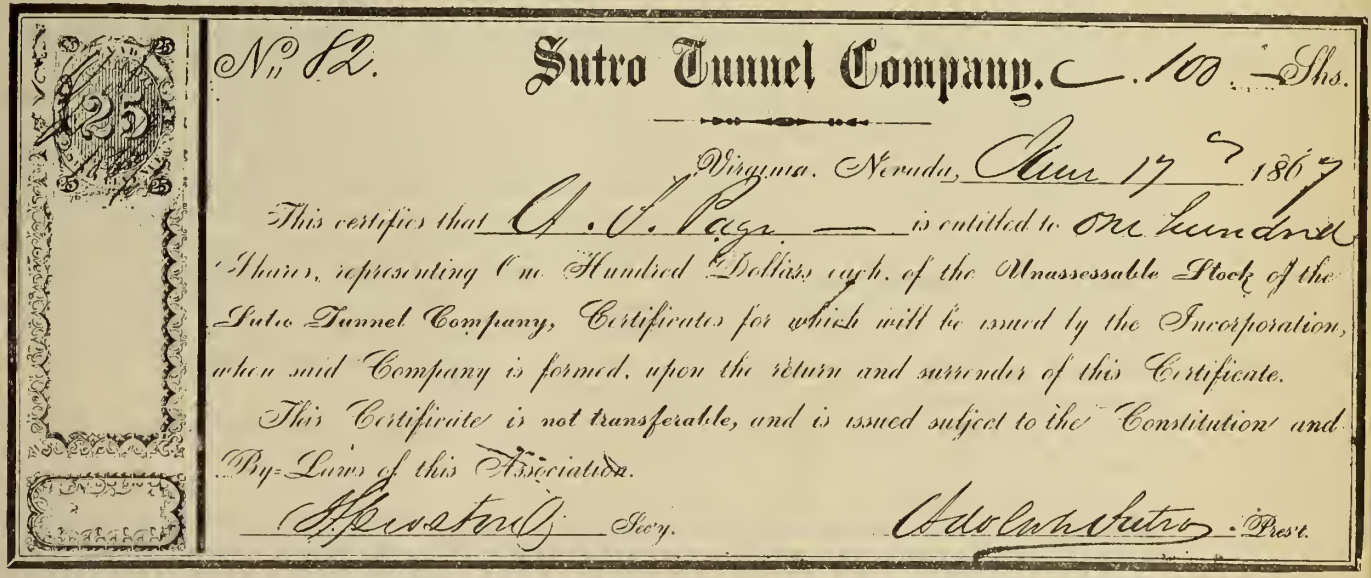
(1) Messrs. Gustave Sutro & Co., whom I asked to help their cousin, but who refused.—J. A.

FAC-SIMILE

of some Nevada Certificates for which Adolph Sutro received payment and which he afterwards refused to recognize.

(See next page Statement of Adolph Sutro when the Sutro Tunnel Co. was incorporated in California)

About this certificate and also about the Certificate of **Baron Von Richthofen,** see (end of this volume), my letter written to the President of the Sutro Tunnel Company, November 20th, 1888. J. A.



No. 82. **Sutro Tunnel Company.** 100 Shs.

Virginia, Nevada, June 17th 1867

This certifies that C. S. Page is entitled to One hundred Shares, representing One Hundred Dollars each, of the Unassessable Stock of the Sutro Tunnel Company, Certificates for which will be issued by the Incorporation, when said Company is formed, upon the return and surrender of this Certificate.

This Certificate is not transferable, and is issued subject to the Constitution and By-Laws of this Association.

H. Rosenfeld Sec'y. Adolph Sutro Pres't.

No. 3. **Sutro Tunnel Company.** 25 Shares

City of New York, April 7th 1868.

This Certifies, that L. Ira Baker of New York is entitled to twenty five Shares of the unassessable Stock, representing One Hundred Dollars, each, of the Sutro Tunnel Company, an incorporation to be formed hereafter, and which shall succeed to the established rights, interests, franchises, powers, privileges and property, real and personal, of an association, known by the same name and title, now in existence under the laws of the State of Nevada.

The said Corporation shall have a Capital Stock of Twelve Millions of Dollars, divided into 120,000 Shares, of One Hundred Dollars each; and should said Capital Stock be increased, the holder of this Certificate shall be entitled to his proportion of such increase.

Certificates, by the said Corporation, will be issued when the same is formed, subject to its Constitution and By-Laws, upon the surrender and cancellation of this Certificate.

Adolph Sutro

Duly Authorized Agent of the Association known as the "Sutro Tunnel Company."

VII.

Incorporation of the Sutro Tunnel Company in California.

1,200,000 Shares of Ten Dollars each.

In November, 1869, Adolph Sutro came to San Francisco, and got the following persons to incorporate the Company : Abraham Seligman, Wm. H. Sharp, S. J. Merritt, John B. Felton, H. Barroilhet, and Joseph Aron.

At a meeting called at Seligman's office (now the Anglo-Californian Bank), before signing the Act of Incorporation, Adolph Sutro made the following statement : He explained the forming of the Nevada Association in 1865. He stated that the first nominal capital was 3,000,000 dollars, that the certificates were duly signed by the President and countersigned by the Secretary (1); that the capital stock was afterwards **increased by him**, under the special powers given to him by the Trustees ; that he issued different series of certificates, some on the Pacific Coast and others in the City of New York and in the City of Washington (which certificates mentioned a capital of 12,000,000 dollars); these certificates were signed by **him alone** (2) as the duly authorised agent of the Association known as the Sutro Tunnel Company, and it was necessary, when the present incorporated California Company exchanged the different series of Nevada certificates for shares in the new Company, to inscribe on the certificate book the particular number and series of the certificates exchanged. He stated that about 5,000,000 dollars (nominal value) were issued by himself and the Nevada Association, and that it would require the same nominal amount in the new Company to exchange them.

One of the Trustees interrupted Mr. Sutro and asked him how it came that so much stock had been issued. Work on the Tunnel had only gone on for two months, and at the utmost 10,000 dollars were spent on the work.

Adolph Sutro answered that for years he had fought almost single-handed against the whole power of the Bank of California, against some of the Pacific delegation in Congress, who with other Congressmen were " bought by the Bank of California "—I am using his own expressions—who, at every session of Congress, tried in an unscrupulous and dishonest way to get the Sutro Tunnel Act of July, 1866, repealed. He had been under heavy expenses. The shares he sold brought him but little cash ; the amount was hardly sufficient for his individual necessities, and it was owing to one gentleman present who had supported him and his family for years that he had been able to exist till then. He was in debt in Washington, and he had made sacred promises which he was bound to fulfil to the parties who had helped him in those fights. These promises were for shares in the Sutro Tunnel Co., which shares, although in his name, he held in TRUST to be delivered as promised by him when the Sutro Tunnel WAS FINISHED TO THE COMSTOCK LODE.

Adolph Sutro then advised the Trustees to have the new Company incorporated with a capital 12,000,000 dollars, divided into 1,200,000 shares of 10 dollars each, and to retain 400,000 of these shares in the treasury as working capital. He desired that the 300,000 shares remaining after he himself and the Nevada shareholders had received their quota should be entrusted to him, to be used as he thought best for the interests of the Company. He would of course return to the Company any of these shares not needed by him.

In answer to one of the Trustees who thought 400,000 shares were not enough for the treasury,

Adolph Sutro said : He was satisfied this was more than sufficient, because he felt certain of obtaining a loan from Congress ; that last year the Committee on Mines and Mining, composed of Mr. Higby of California, Judge Woodward of Pennsylvania, Mr. Ashley of Nevada, J. Proctor Knott of Kentucky, M. C. Hunter of Indiana, Judge Ferris of New York, Mr. Mallory of Oregon, General Ashley of Ohio, and Mr. Driggs of Michigan, had recommended a loan of 5,000,000 dollars, and it was only owing to the impeachment trial of President Johnson that it did not come to a vote in Congress. Next session he was sure to succeed.

At the close of Sutro's statement, Messrs. John B. Felton and William H. Sharp, the attorneys of the Company, said that the powers given and the **actual transfer** of the property made to Sutro by the Nevada trustees showed clearly the full confidence they had in their trusted attorney ; and therefore they advised that, in consideration of Adolph Sutro's deed, the whole capital stock should be issued on his orders only, on which orders he was, however, to mention the particular series of Nevada stock for which he granted the new certificates. He was authorised to order the issue (without the aforesaid mention of series) of certificates Nos. 1 and 2 (together 400,000 shares) to the Sutro Tunnel Company and to its Treasurer, A. Seligman, as treasury stock, and certificates 3 and 4 (together 300,000 shares) to **himself**. These last 300,000 shares were, in reality, a TRUST similar to the one which the Nevada Company conferred upon him, and of which a FINAL ACCOUNTING was to be given when the Sutro Tunnel was finished to the Comstock Lode (3).

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(1) See *fac-simile* page 17.
(2) — — — 17.
(3) Adolph Sutro has never given this accounting.—J. A.

The following deed was then executed by Adolph Sutro :—

COPY *Deed of A. Sutro*

This Indenture, made the Thirtieth (30th) day of November, A. D. One thousand, eight hundred and sixty-nine, Between the undersigned, the party of the first part, and the Sutro Tunnel Co., of the City and County of San Francisco, the party of the second part.

Witnesseth.

Whereas, the said Sutro Tunnel Co. has been duly incorporated under the laws of the State of California and it is intended by the Instrument to transfer to the said party of the second part, all the right, title and interest of the said party of the first part, which he has and claims in and to the property, rights and privileges hereinafter described.

Now, therefore know all men by these Presents that the said party of the first part, whose name is hereunto subscribed in consideration of Certificates of Stock in said incorporated Co., hereafter to be issued to him and his assigns, in conformity with the By-Laws of said Corporation, Doth hereby grant, bargain, sell, transfer, remise, release, and quit claim unto the said party of the second part, it successors and assigns, All and Singular, the real estate, franchises, right of way, obligations and privileges of every nature or kind, held by said party of the first part, in and to the association known as the Sutro Tunnel Co., or of said association in and to real estate, franchises, rights of way, *obltgations, contracts*, privileges and other property. The true intent of this conveyance *is to vest in said party of the second part, its successors and assigns, all property, rights, or privileges acquired or held by said party of the first part*, under or by force of an act of the Legislature of the State of Nevada, entitled an act granting the right of way and authorizing A. Sutro and his associates to construct a mining and draining tunnel, approved February 4th, 1865 ; and an act of Congress of the U. S. of America entitled : " An act granting to A. Sutro the right of way and granting other privileges, to aid in the construction of a draining and exploring tunnel to the Comstock Lode, in the State of Nevada." Approved July 25th, 1866.

Together with all and singular the hereditaments and appartenances thereunto belonging.

To have and to hold the said premises with all and singular their appartenances unto the said party of the second part, its successors and assigns for ever.

In witness whereof, the said party of the first part hath hereunto set his hand and seal the day and year first above written.

(Signed) ADOLPH SUTRO. (Seal)

Signed in the presence of
(Signed) F. G. THIBAULT
Commissioner for Nevada in California.

Recorded at request of W. K. Van Alen, January 22nd, A. D. 1870, at 10 min. past 12 o'clock m., in Book F of Lyon County Records of Deeds, Folios 676 and 677.

(Signed) L. L. CROCKETT,
Recorder of Lyon Country, Nevada.

Notwithstanding that the Sutro Tunnel Company was now incorporated, Sutro, who continued to have full powers, was unable to sell many shares in California. A few more were sold by him to some of the miners in Virginia City ; but this did not amount to much. Adolph Sutro was disappointed at not getting help from some of those millionaire trustees to whom he had given shares for nothing in order to induce them to become incorporators of the Sutro Tunnel Company. He concluded that it was necessary for him to go East in order to make some financial arrangements there. Before he left I agreed (although very reluctantly) to furnish a few thousand dollars more if needed to keep the work on the tunnel going for a little while. Messrs. Abraham Seligman and William H. Sharp also promised to aid him with a few thousand dollars, *and they both kept their promises.* While in Washington, Sutro was continually afraid that the work would have to come to a stop.

Better than anything I can describe here would be a perusal of his own letters, which follow :—

JOSEPH ARON, Esq. WASHINGTON, MARCH 5th, 1870.

Friend Joe,—. . . . . I am much disappointed at the exceedingly slow sale of shares ; but don't get discouraged . . . . . *The fact that we are at work is everything here in Congress ; if it were not for that, I would have a poor show. Please, therefore, under no circumstances let the work come to a stop ; it would be fatal to everything.* (Signed) ADOLPH SUTRO.

WASHINGTON, March 20th, 1870.

My dear friend Joe,—. . . . . For some days I have been looking for letters, from not only you, but from the people at the tunnel, and *almost suspect that something is wrong* about affairs out there. I hope not, and that the work is progressing as usual, *for if it is stopped it will be fatal,* I think, to my success here. The progress of the tunnel has been the great argument in my favor, and *I have not the slightest doubt* that the *3rd Section* (of the Sutro Tunnel Act) would have been repealed, had it not been for that.

If I have not written you oftener, you must pardon me, for I have been at work day and night, and only telegraphed you the result in the Committee a week ago. . . . . *I hope you will not ruin all my prospects* by stopping work now, and still I have all along fears that such be the case, by a refusal to pay in the money which was agreed upon to be paid in. I hope not, for it would indeed be cowardly to back out at this stage of the proceedings and embarrass all my calculations. I have repeatedly told you *that amount would bring us all right.* (Signed) ADOLPH SUTRO.

WASHINGTON, April 24th, 1870.

Dear friend Joe,—Your letter received, feel very grateful for the deep interest you take in our affairs. . . . . I had Seligman and Co., L. von Hoffmann and several others examine our affairs. The stumbling block thus farhas been **Von Hoffmann**. He is afraid we might not be successful ; he also looks upon it as an obstacle that *so much of our stock is out already* without an equivalent of cash or work to show for it. I clearly see we must speedily obtain some more funds, else the work might be brought to a standstill, the greatest calamity which could befall us. (Signed) ADOLPH SUTRO.

VIII.

GEORGE T. COULTER.

Shortly after Von Hoffmann's refusal to look into the Sutro Tunnel matter, George T. Coulter, who had been introduced to Adolph Sutro by the Seligmans, and who was a nephew of Robert McCalmont, taking a lively interest in the Sutro Tunnel enterprise, succeeded in April, 1870, in getting a most extraordinarily favorable proposition for a loan of 3,000,000 dollars. The following correspondence will show that Adolph Sutro's demand of 100,000 dollars deposit for a 60 days' option made the whole negociation fall through.

ADOLPH SUTRO, Esq.
PENNSYLVANIA AVENUE, WASHINGTON.

LONDON, April 27th, 1870.

My dear Sir,—To-day I am in rec. of your telegram saying. "Hope negotiations may speedily succeed," and I have replied, "Written proposition this mail."

A day or two since M. Weston came over from Paris and submitted the 1st propositions which I now enclose. I suggested he should make one for 3 million dollars as well as for four, which he has done, and I now have the pleasure of sending them to you. They are substantially the same, only one contemplates a loan of 3, and the other of 4 million dollars.

If you can authorize a negotiation upon the basis of either of these proposals, you had better *telegraph* me on rect. of them *which* you prefer and then *write* me with full authority to act.

Weston assures me the loan can be made upon the basis of one or the other of these plans, and they don't care which you may prefer.

I know their *principals* in the matter, and they are people *only* second to the Rothschilds.

I think they will be quite willing to have a California organization, but they stipulate that *New York* shall have nothing to do with it.

Very truly yours,
(Signed) G. T. COULTER.

GRAND HOTEL, NEW YORK, May 13th, 1870.

JOSEPH ARON, Esq.

Dear Sir,—. . . . . Wrote to you at length on the 11th, inst., and forwarded copy of letter to you from Geo. T. Coulter and proposition for loan. I stated to you that it would be useless to entertain the proposition at all, but have since, after careful consideration and consultation with some friends altogether changed my opinion, and to-day telegraphed by cable: "Accept second proposition, provided speedily consummated. Written." Also wrote at length to him stating that although this was not as well as we could probably do, I still concluded to accept, and knew the Company would endorse it. I suggested, however, that we should require those parties to deposit $100,000 with some banker in New York or San Francisco as a forfeiture, and on that condition give them, say 60 days, to complete their arrangements.

Now I will tell you how this thing will operate. The second proposition provides that the capital of $12,000,000 is to be divided into 4 classes of 3 millions each. They are to furnish 15 millions francs, and for that get—1st, 3,000,000 of mortgage shares, 2nd, 3,000,000 preferred stock. We get as follows: 1st, 3,000,000 of open shares, and 2nd, 3,000,000 of deferred shares. Their mortgage, shares bear 8% interest, and if paid off, cease to exist. So there will be but 9,000,000 in the Co. If they exchange them for open stock, well then the capital remains 12,000,000, but it cancels the debt.

Their 2nd class, or preferred shares, are no better, than ours, except in case of *liquidation* they are to be paid off *first*, and are entitled to the first dividends of 8%, should there not be enough to pay also on our shares.

Now as to our interests, we are to get 3,000,000 at once, and 3,000,000 after the mortgage shares are either paid off or exchanged.

Now, what I want done *at once*, is to have a meeting of trustees called, and a resolution passed authorising the President and Secretary, under the seal of the Company, to executute a power of astorney to me, *full* and *ample*, so as to cover all point, with power of *substitution*. There is no time to be lost, for I may go over to Europe as soon as everything is arranged, or may conclude to transfer such limited power to Coulter as will enable him to sign whatever agreement has been beforehand submitted.

I leave this question of substitution to you; it may be best to compel the agreement to be signed to be sent over here for signature, or leave it until I can get over there.

The parties here of whom I spoke are Brown, Lancaster & Co., of Richmond, Va, not so much known in New York, but rated A1 A1 A1. They had already concluded to send an engineer over there to report, but I wanted them to say something definite at once, and showed them the letter from Coulter. They thereupon advised me not to let that chance go, that it would be as well as I could do here, and that if the matter over there should fail, they would then take it up.

So you see that even if we do not succeed in Europe, we will have a pretty good chance here. I am satisfied that one or the other arrangement will be made in the very next few months.

I have been kept pretty busy on this matter for several days, but shall now try to make some arrangement for enough money to keep going. Submit this whole matter to our trustees, and please state that though this letter is adressed to you, it is intended for the Company. After you have had a meeting in regard to this matter, please telegraph whether you approve of my course.

Very truly yours,
(Signed) ADOLPH SUTRO.

GRAND HOTEL, NEW YORK, June 3rd, 1870.

Friend Joe,—I was glad to hear that the European proposition meets with your approval. I told you in one of my former letters that I had written to Coulter that we should require from these parties a deposit of say $100,000 and then give them sufficient time to make their arrangements; also asked him to telegraph to me whether this would be accepted. I have in response thereto received a cable despatch from Coulter saying: "Proposition declined; have written." (Signed) ADOLPH SUTRO.

Notwithstanding the failure of these negociations, George T. Coulter (now dead), who was the "AMERICAN GENTLEMAN" mentioned by Adolph Sutro in his "Argument" (1) before the House Committee on Mines and Mining, later on succeeded (when Sutro's scheme was on the verge of bankruptcy, and Sutro himself in a state of destitution) (2) in raising about 1,400,000 dollars in gold for 350,000 shares of Tunnel stock.

Poor Coulter, who died lately in San Francisco a perfect wreck, having been for years a confirmed invalid, was, in my opinion, treated in a most inhuman and abominable manner by Adolph Sutro. A miserable plot against Coulter succeeded, and I hope his attorneys in San Francisco will make public the long letter which Coulter wrote to them on the 7th of April, 1887, and of which I give here the closing paragraphs:—

The wrongs I have already recounted in this letter are, however, not all that were done to me by Mr. Adolph Sutro.

After he had imposed upon Messrs. McCalmont Bros. & Co., all the stock he could get them to take, he made arrangements for a mortgage on the Sutro Tunnel Company's property for further advances to be made by them to the Company. He came out to California (in 1875), and it was not long after that the brilliant services, as alleged by him, that he had rendered the Company demanded from a grateful body of co-partners suitable recognition, and he got his Board of Directors to vote him out of the remaining shares belonging to the Company (the capital, by the way, having been increased from 1,500,000 to 2,000,000 shares), 100,000 shares: and he also got this pliant lot of amiable gentlemen to charge up to the expense account of the Company a sum of money approximating 100,000 dollars which he personally managed to get rid of during a period of about two years in travelling, gorging and guzzling, in possible—though not probable—disbursement amongst certain lobbyists at Washington, in hacks, whores, doctors, druggists—four co-relative things—and finally in books, for as long back as those days when this enterprising freebooter had the magnificent sly at McCalmont's coin that he did have, he laid the foundation and put in the corner-stone of the superstructure which has since been swollen to its present dimensions, with the musty old volumes which he calls his library, procured for the larger part, in all likelihood, from the refuse of the cellars of the British and other museums, and the cheap Johns and rag fairs of Continental Europe.

I have nothing more to say upon this subject. Mr. Sutro has accumulated a large fortune, a very large portion of which came out of me. If any one was entitled to any such commission as he asked, it would have been myself, as all of the money provided for the Company was got directly or indirectly through me and my friends. It can, indeed, be proven, if necessary, that all he has is traceable to me and my efforts for him in the past. **I was his faithful assistant for years.** My only compensation has been fraud, falsehood, and despicable ingratitude, sandwiched with a treachery as base as it has been cruel and cold. He erected an altar to his lust and ambition, his vanity and greed; I have been the sacrifice.

Will you be kind enough to give me your opinion as to my rights in these matters, as I am informed that Mr. Sutro is about taking action on the judgment which he obtained some years since, and which is shortly maturing. Yours very truly. (Signed) G. T. COULTER.

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(1) See Sutro's "Argument" page 49.

(2) See next page letter of Sutro, March 12th, 1871.

IX.

ADOLPH SUTRO AGAIN IN A FIX AND DOLLARLESS.

After the failure of Coulter's first negotiation Sutro made arrangements with Reverdy Johnson, formerly United States Minister to London, to go with him to Europe to help him in his negotiations. The Franco-Prussian war, however, prevented them from starting. Sutro tried to sell more shares in New York, but without success. A few months before his return to California he wrote me the following letter :—

JOSEPH ARON, Esq. NEW YORK, July 23rd, 1870.

My dear Joe,—Now that Congress has adjourned, I might as well tell you that I entertained some no doubt well-founded fears that Bill Stewart [Senator Stewart, the first President of the Nevada Sutro Tunnel] and his colleagues would attempt to smuggle in some wily, ambiguous sort of clause, attached to some appropriation or other bill, *the last hours of the session*, which would have thrown a cloud on our title, &c. . . . . *The ways* of Providence are strange indeed, for just as I had made the most promising arrangement and I was about going over to Europe with every prospect of speedily consummating our affairs, that war commenced, coming as it did as a thunder-bolt from a clear sky. You can of course imagine my disappointment. I am, however, not discouraged.

To you, dear Joe, I owe a great debt. You have stood by me when all deserted me, and I do sincerely hope we will all soon have the satisfaction of seeing our efforts crowned with success. Very truly your friend,

(Signed) ADOLPH SUTRO.

Sutro returned to the Pacific Coast from Washington in the month of August, 1870, very much discouraged. Only a few thousand dollars remained in the Treasury. He was therefore forced to take some radical measures, such as discharging most of the miners. Without the devotion of John D. Bethel, foreman at the Sutro Tunnel, the work would have been stopped altogether.

Adolph Sutro returned to Washington at the end of 1870. He wrote again to Coulter begging him to interest himself in his behalf. During Sutro's stay in California he succeeded in getting another few thousand dollars out of me, and from Washington he continued to ask me for more money for his private expenses. He was unable to raise any money from others, yet he had over 500,000 shares of Sutro Tunnel stock in his name, and I never asked him to deposit *one* with me as security for my advances. My confidence and belief in that man were so great that I acceded to all his demands. Below some of his letters :—

WASHINGTON, Jan. 8th, 1871.

My dear Joe. . . . . Nothing new yet. *You have no idea with what difficulty it is surrounded to get round amongst the men you want to see. I will give you as a sample my experience one evening this last week.*

As usual after dinner (6 o'clock) went out to make calls. The first one *Senator Morill*, of Vermont. Saw him, but he begged to be excused, having just received a call from several ladies. I then started to see *Bill Stewart* (about a mile off). Caught him in time, walked along with him to M. Street for some distance.

Then being in the neighborhood where I seldom get to, I called on *Senator Tippton*, of Nebraska, spent half an hour with him, then took the street cars and started for Capitol hill about two miles off ; called on Senator *Parson Brownlaw*, who had gone to bed, called next door on Senator *Cameron*, of Pennsylvania, he had just a moment before gone out ; then started out to E. C. Street, half a mile to call, on Senator *Pratt*, of Indiana ; he begged to be excused for he had fallen on the ice and got hurt. (He is 6 feet, 6 high and weighs 350 pounds). Then called on Judge *Woodward;* on *Miss Thomas*, afterwards on *Mrs. Lippincott* (Grace Greenwood). Then took the cars and went beyond the White House. Called on *Senator Conkling;* of New York, then on *Senator Nye*, then walked to Willard's Hotel, enquired for *Senator Spencer*, who was out, and it being 10½ by this time, went home and retired in disgust. This will give you some idea of the difficulties of seeing people. This week I shall make more headway. I have struck on a plan to see several senators together. I shall ask permission to come before several of the Committee for an hour or more. . . . . I have a sort of *financiered* along thus far, but am rather in *crippled* circumstances, financially speaking ; *I may have to avail myself*, though reductantly, of the offer you made me to draw *on you for $500,* that is to say if I cannot get along in any other manner at all. *This is a high old Co. of ours, trustees worth millions, who would leave me to starve before they would come to the rescue.* . . . . (Signed) ADOLPH SUTRO.

WASHINGTON, Jan. 14th, 1871.

My dear friend Joe,—*Although reluctantly, I see myself compelled to avail of your kind offer to draw on you for* $500, *which* I have done to-day. This will probably *see me through this session.* The prospects of our bill look good.

(Signed) ADOLPH SUTRO.

WASHINGTON, Jan. 22nd, 1871.

My dear Joe,—*I drew again on you in favor of J. and W. Seligman and Co. for $500.* It was with great reluctance that I did so, but I had to do it in order to keep afloat ; a couple of thousand dollars at this juncture would have been of immense service, but I shall manage to get along without it, I hope. . . . . (Signed) ADOLPH SUTRO.

WASHINGTON, February 19th, 1871.

My dear Joe,—. . . . . There are only about 12 days left of this Session. I feel almost discouraged, my dear Joe, to write to you, for these continual disappointments are enough to make any one falter, and *you, who have been so very kind to me personally and full of confidence in my ultimate success?* I hope you will not despair of my ultimate triumph.

(Signed) ADOLPH SUTRO.

WASHINGTON, February 28th, 1871.

My dear Joe,—. . . . . *I have financiered the best way I could through the winter, and I am getting to be in a bad plight. Can't you raise someway for me a couple of thousand dollars?* (Signed) ADOLPH SUTRO.

WASHINGTON, March 12th, 1871.

My dear Joe,—. . . . . Your welcome letter duly reached me, and I was sorry to hear you had sickness in your family which caused your silence for some time previous. Well, my dear Joe, you no doubt think me terribly discouraged. To tell you the truth, for a week or two, before the 4th of March, I had a huge disgust about the turn of affairs, for I had really set my hopes upon winding up my affair successfully at this Session. . . . . I shall probably go over to England and see what can be done. You will consider my confidence strange, especially at a time when things look worse than they ever did before. The Company in debt, barely money enough to keep a few picks going a few months longer, and I myself *without a dollar*, in fact behind, and the absolute wants of *myself and family becoming more pressing from day to day.* Dear Joe, I have been in the same fix before, but not quite so bad, about half a dozen times. . . . . Let me hear from you a little oftener ; *do not lose your confidence in our ultimate success, dear Joe ; I am bound to win, and though the delay and obstacles are great, the triumph will be all the greater.*

Very truly, your friend. (Signed) ADOLPH SUTRO.

X.

COMMISSIONERS APPOINTED BY GENERAL GRANT.

Although Sutro had failed in getting a subsidy, *he succeeded in getting Congress to pass an Act ordering the President of the United States to appoint Commissioners to go out to Nevada and report on the Sutro Tunnel.*

The appointment of this Commission opened a new era for Adolph Sutro, as can be seen by the following letters :—

WASHINGTON, April 8th, 1871.

My dear Joe,—. . . . . You know the bill for appointment of a Commission has passed both Houses, and been approved by the President. You no doubt appreciate the importance of this step. It is a regular recognition of the propriety of granting a subsidy. *Now this Commission means money, that is money to be raised on the strength of it*, and you may rest assured that I shall leave nothing undone to make some financial arrangements in New York sufficiently large to carry on the work during the coming summer. Very truly, your friend, (Signed) ADOLPH SUTRO.

GILSEY HOUSE,
NEW YORK, April 29th, 1871.

Dear Joe,—. . . . . I telegraphed to you to-day that I had telegraphed Bethel to put on 3 shifts of men again from May 4th and that our finances were partly arranged. The fact of it is, Seligman agree to subscribe $10,000, and have several parties who will subscribe equal amounts so as to swell the sum to $50,000, and they think possibly more. I asked them whether we had not better start a full force at once, and they thought I had better telegraph.

Terms have not yet been agreed upon and it is pretty much left to them. I told them I thought about $2 per share, but may have to give the stock at $1.

Coulter telegraphs from London that he sails on the 22nd of April, and that he shall probably have some propositions to make. . As soon as our financial matters are arranged here, I shall leave for California.

(Signed) ADOLPH SUTRO.

NEW YORK, May 9th, 1871.

My dear Joe,—. . . . . *Coulter arrived from England, will start for California in a few days*, together with a friend of some financial influence. He returns to England in July.

In the meantime my pending negotiations are for $50.000 here which we will *have to raise at $1 per share, or 10 % of the par value.* So far only, *Seligman* have subscribed $10.000. They have 2 or 3 more ready, they say for $5 000 each more.

I hope, "dear Joe," you will not loose your patience wilh all this delay ; we have not made any final success of it yet, but have progressed step by step and kept our own.

If it will once succeed you will be the one who deserves the credit of having comprehended the matter at the first glance and understood its importance and, with active aid, supported the matter when everybody shrank from the magnitude of the undertaking.

(Signed) ADOLPH SUTRO.

NEW YORK, May 21st, 1871.

My dear Joe,—. . . . . Your telegram reached, and I replied as well as I could in a few words, and will now tell you in a few words about our situation. I told you that I expected to obtain $50.000, that I had such assurances as made it pretty sure. *Those were given by the Seligman;* they thought they could get me that amount without any trouble. *But they have not done it.*

They subscribe $10.000 *provided* we raise above amount. They tell me they have 2 persons each with $5.000 ready to subscribe, but *the balance* is not forthcoming. . . . . *I have tried hard to get the money* in Providence, Philadelphia, Washington, Harrisberg, &c., &c. ; but nothing definite yet. It is the old story of putting a small amount of money in an affair which takes a great deal.

Seligman's know all about our affairs. Abe told them they might take up the whole thing, that it is safe, and that there are millions in it : but *they are very timid, they did not succeed at once in getting the amount subscribed and that makes them more timid.*

They know what it costs to build the Tunnel, they have Board of Trustees to suit, but notwithstanding this, they would no more *put in the whole $50.000*, which they ought, than fly up to the moon. The thing annoys me very much. The commission will probably get off by the 1st of June sure, and I ought to be ahead of them if anything. *Coulter is in San Francisco* long before this. He will tell you all about the prospects in London. Do not say anything about the contents of this letter to him. *He thinks* Seligman have subscribed the $50.000 needed. *I think they told him so.* I enclose you a letter of introduction to Mr. Coulter, for I believe *you have never met him*, so he will know who you are, and talk freely to you ; (you probably will find him at the Occidental). *Dear Joe, it is a long, hard pull ; but sure to come right. A thousand times obliged for the amount paid to Mrs. Sutro.*

(Signed) ADOLPH SUTRO.

NEW YORK, May 28th, 1871.

My dear Joe —..... Matters are at last so far arranged than in another week I will be able to start ahead of the Commissioners *We have 5 Subscriptions of 5.000 Dollars each, of which I retake one* on my own private account. Besides this, *Seligman themselves* will subscribe 5 or 10.000 Dollars whenever it is needed. In fact they mean to furnish the means in someway to keep the work going, for say a 12 months or until we can get some action by Congress. My intention is to go to England with Coulter and his friend Mr. Price, a former partner of McCalmonts.

Dear Joe, after another big tussle I will be all right for a while at least, and I hope this will be the last fight for *existence* I shall have to go through.

I saw that my only salvation was in the appointment of this Commission, without it I believe I could not have raised a cent. The thing was getting stale and worn out ; *it had been hucksteered about too long* and the public lost confidence in my action by Congress.

The unanimous appointment of this Commission has entirely altered the aspect of affairs. . . . .

The money troubles of which the world know nothing have been the great weight which has almost borne me down, and I can assure you *a great load has been removed from my heart* in having things once more secured for a while. . . . .

(Signed) ADOLPH SUTRO.

XI.

LARGE SALES TO McCALMONTS AND SELIGMANS.

Owing to the appointment of the Sutro Tunnel Commissioners, Mr. Geo. T. Coulter, who was then in Nevada, was induced by Sutro to take up negotiations again in Europe for the Sutro Tunnel Co. The following letter of Adolph Sutro explains on what conditions :—

VIRGINIA (Nevada), July 8th, 1871.

My dear Joe,—. . . . . *Mr. Coulter and party left here last evening* for the East and England after stay of two days ; if they had a good opinion about the Tunnel before, they are *now quite enthusiastic* with what they have seen.

I have given Coulter the privilege to sell one hundred thousand shares at $2½ gold per share by October 1st next, with the privilege of 100,000 shares more at $4 in gold by the 1st of March next. *The 1st sale he looks upon as good as consummated*, Mr. Price agreeing (as Coulter told me) to take *twenty thousand pounds* of it himself alone. The second privilege I did not care much about giving, but after what I had proposed to him in San Francisco I was compelled to do something of that kind. His commission will be 1 share for every 4 sold. . . . . (Signed) ADOLPH SUTRO.

From England Coulter telegraphed for Sutro. The trustees passed a resolution authorising Sutro to sell the treasury shares at such a price and upon such terms as he may think fit, and granted him besides the following power of attorney :—

COPY *State of California, City and County of San Francisco.*

Know all men by these presents that the Sutro Tunnel Co. a corporation duly incorporated under the laws of the State of California, hath made, constituted and appointed, and by these presents, doth make, constitute and appoint Adolph Sutro, of the said city and county of San Francisco, State of California, its true and lawful attorney, for it, and in its name, place and stead, and for its use and benefit, to mortgage and hypothecate all the franchise, property, claims, lands, tenements and hereditaments of and belonging to the said Sutro Tunnel Co., wherever situate, for such sum or sums of money and for such time or times, and upon such terms and conditions as he may think fit, and in the name and as the act and deed of said Co. to sign and seal, execute, acknowledge and deliver all notes, bonds, or Mortgages necessary to carry out these presents, but all such notes, bonds or Mortgages shall contain an express condition and covenant that the franchise, property, claims, lands, tenements and hereditaments of the Sutro Tunnel Co. shall alone be liable for the payment of the same and that the Stockholders or Trustees of said Co. shall not be held liable therefor in his or their individual capacity :

Giving and granting unto its said attorney full power and authority to do and perform all and every act and thing whatsoever requisite and necessary to be done in and about the premises, as fully to all intents and purposes as it might or could do, if personally present.

In witness whereof, the Sutro Tunnel Co. hath hereunto subscribed its name by the hand of Samuel Merritt its president, and hath hereunto affixed its corporate seal by the hand of W. K. Van Alen, its secretary, this 29th day of August, 1871.

Signed, sealed and delivered in presence of (Signed) WM. H. SHARP. JOSEPH ARON. (Seal of the Co.) SUTRO TUNNEL Co., (Signed) By SAMUEL MERRIT, President. W. K. VAN ALEN, Secretary.

Acknowledged before W. H CHEEVERS, Notary and Commissioner for the State of Nevada.—Certified, W. L. BOOKER, the British Consul.

After Sutro's departure he wrote me the following letters :—

NEW YORK, August 29th, 1871.

My dear Joe,—To-morrow I sail on the Russia. . . . . My hopes are concentrated in Coulter and every reason to think that it will be consummated. Seligmans will probably take a part of option if he lets them have it . . . . .

I had to let some of Seligman's friends have 12,500 more shares which they had given their promise for at one dollar *currency, and the amount is placed to my credit.*

They are parties who strengthen our affair and at the same time I needed some money . . . . .

Everything looks promising and I hope to telegraph you good news from London before long. ADOLPH SUTRO.

LANGHAM HOTEL,
LONDON, September 10th, 1871.

My dear Joe,—. . . . . Last night I arrived here safe. *Coulter called to see me to-day.* He appeared somewhat anxious to know what sort of proposition the other parties had made. . . . . He has not closed anything yet, but thinks that the options given him may be accepted *whenever I am ready to say so.* I told him that it is for him to close the matter as it now stands. I should cheerfully have him accept the options. In a few days I shall have an interview *with McCalmonts.* I told Coulter that the *Seligman's* would probably take a part of his options, which I think they had better do, for the moment this arrangement is once made, they will have difficulty in getting in beyond what they I have now, which I believe does not exceed $400.000. I shall call to see them to-morrow. Ab. I. think is in Frankfort, but will be here before long.

(Signed) ADOLPH SUTRO.

LONDON, September 16th, 1871.

My dear Joe,—. . . . . Yesterday I had the first interview *with McCalmonts* which resulted in an *acceptance of the options, given to Coulter*, of which one fourth is reserved for *Seligman's*, who wish to be interested to that amount. I went with *Coulter* to *McCalmonts* country place, 20 miles from London, where we spent some 4 or 5 hours talking matters over very freely.

Coulter wants an additional option of one million in *shares at par* and we agree to withhold any further stock from sale for the present. There appears good prospects of placing it and some hopes of getting the Rothschilds at Paris to take the same. I have agreed with Coulter to start with him for Paris and go as far as Mount Cenis Tunnel. We expect to be back here inside of a week, when the whole matter will be formerly closed with *McCalmonts and Seligman.* McCalmonts want 3 Trustees. Mr. Wedderspoon, of Cross and Co., his partner, and Colonel Brush, of Baltimore, who will reside over there. Payments are to be made in monthly instalments of £10.000 per month, the 1st to be paid over to Seligmans at San Francisco by Cross and Co., about October 15th, after letters can reach them. This, my dear Joe, settles our finances, in my opinion, for good. *It is particularly understood that McCalmont's name is not to be mentioned in the matter for the present.* . . . .

(Signed) A. SUTRO.

LONDON, September 23th, 1871.

My dear Joe,—. . . . . Both the powers of Attorney and letters have reached me for which many thanks.

Ab. Seligman arrived from Frankfort, specially to see me about the interest they proposed to take. *I had arranged with the New York house* that they should get $500.000 *of Coulter's* option at the same price *provided* Coulter would let them have it. They wrote to the London concern and advised them to close it. So, since I am here, *I first saw Leopold Seligman*, who could say nothing about it, then *Ike Seligman* came since my return from Paris and he could say nothing until *Abe* should come ; he was telegraphed for and arrived as stated to-day and I have had two long interviews with them during the day. . . . . *Their object is to get in way down ;* but I have most positively told them that I would not make the slightest concession *from Coulter's option ;* that they had to come in on that *basis or stay out*, and it all wound up in leaving this matter undecided until Tuesday morning next.

That I get them to agree to it, I feel confident, in fact I do not mean to give them the slightest outside inducement, for I do not mean to *act in bad faith towards McCalmonts or any one else.* I told *Abe* that I had *begged* them for *months* and *years* to come in, and they always refused to.

When the thing has a value now they ought to be *willing to pay for it.* I have given Coulter an additional option for 100.000 shares at $8, net, and he considers it as good as sold.

Joe Seligman telegraphs yesterday that the *Commissioners'* report is *favorable ;* he must have the information directly *from the President.*

Keep cool, my dear friend Joe, about our affairs ; we are on the high road to success.

(Signed) ADOLPH SUTRO.

XII.

SELIGMANS GET BETTER TERMS.

This prominent banking house made a little better bargain with Adolph Sutro than their partners McCalmonts did. The following letter explains how :—

JOSEPH ARON, Esq. LONDON, September 27th, 1871.

My dear Joe,—. . . . . I telegraphed you yesterday that our matter has at last been concluded. *I had a good deal of trouble with the Seligmans.* They wanted *better terms.* I told them they could not have them and that if they desired to take an active part in our affair they had better accept. They readily saw what position they were in, for *Coulter had accepted the whole option*, and after great talking it all wound up in *them insisting on getting 25 % Commission* as well as *Coulter.* To cut the matter short *I ageed to give them $125,000 in shares additional from my own interest.*

I put it on the ground that I would give this *to Abe Seligman* individually in consideration of the interest he had taken heretofore in the matter. I have given the additional options to Coulter ; besides I have given him one for myself on 50,000 shares at 5 dollars per share to be accepted by January 1st.

Your friend,

(Signed) ADOLPH SUTRO.

Adolph Sutro returned from England highly elated. 650,000 dollars gold were secured for the Sutro Tunnel Co., besides which Geo. T. Coulter had taken another option of 100,000 shares at 8 dollars gold per share.

The aspect of the works at the tunnel underwent quite a transformation.

Sutro remained only a few months in Nevada. He had to go back to Washington, (1) having told McCalmonts that he would surely get a subsidy from the Government. He relied very much upon the Sutro Tunnel Commissioners' report, which, as will be seen later on, did not prove as satisfactory as he expected.

A bill was introduced in the beginning of 1872 into Congress to aid the Sutro Tunnel Co. It was referred to the Committee on Mines and Mining, before whom appeared Major-General Wright, Major-General Foster and Professor Newcomb, the Sutro Tunnel Commissioners. Adolph Sutro was allowed to examine them, and also to cross-question the superintendents of the Comstock Lode who were examined by Mr. Sunderland. The full proceedings, together with the "Closing Argument of Adolph Sutro" were ordered to be printed, and now form a part of the archives of the Government.

I will now close this volume with the official Report of the Sutro Tunnel Commissioners and the Closing Argument of Adolph Sutro before the Committee on Mines and Mining in the House of Representatives, (copied from the official records), WHICH SHOULD BE READ ATTENTIVELY BY EVERY SHAREHOLDER OF THE TUNNEL CO.

JOSEPH ARON.

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(1) After having been a short time in Washington Sutro began to feel scared about the Seligmans, as will be seen from the following letter :—

WASHINGTON, February 20th, 1872.

I am told that Seligmane want their stock issued in small certificates ; that is all wrong and will make the impression in London that they have no confidence and will sell out as soon as opportunity offers. My plain understanding with Ab. (Seligman) was that we were all to hold our stock until we establish a firm market at par. *That any sales previous to that should only be made through Coulter.* (Signed) ADOLPH SUTRO.

IF THE STATEMENT OF SUTRO IS TRUE that he had an understanding with Coulter that no sales should be made except through him, then certainly Coulter has been badly treated from the very start, because, Seligmans not only got, unknown to him and to McCalmonts, 12,500 shares as commission, but they actually sold 18,300 shares in Europe in 1871. The best evidence of this is the certificate book of the Sutro Tunnel Co., where can be seen recorded the following transfers made by Seligmans Dec. 1871. 8,000 shares, Certificates Nos. 1229 to 1236, to E. Erlanger & Co.; 8,000 shares, Certificates Nos. 1237 to 1244, to R. von Erlanger & Sons ; 1,000 shares, Certificate No. 1245, to M. Hellmann ; 500 shares, Certificate No. 1246, to Seligman Steidheimer ; 500 shares, Certificate No. 1247, to Michaelson ; 300 shares, Certificate No. 1248, to E. de la Penha. J. A.

XIII.

REPORT

OF THE

SUTRO TUNNEL COMMISSIONERS.

The following Act was passed by Congress in April 1871 :—

AN ACT authorizing the President to appoint commissioners to examine and report upon the Sutro tunnel in the State of Nevada.

Be it enated by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States is hereby authorized and requested to appoint a board of three commissioners, two of whom shall be officers of engineers of the army and one a mining or civil engineer, to examine and report upon the Sutro tunnel in the State of Nevada, authorized to be constructed by an act of Congress, approved July twenty-five, eighteen hundred and sixty-six, with special reference to the importance, feasibility, cost, and time required to construct the same ; the value of the bullion extracted from the mines on the Comstock lode ; their present and probable future production ; also the geological and practical value of said tunnel as an exploring work, and its general bearing upon our mining and other national interests in ascertaining the practicability of deep mining.

Approved by the President of the United States, April 4, 1871.

The Commisssoners appointed by General Grant were :

H. G. WRIGHT, *Lieutenant Colonel of Engineers, Brevet Major General United States Army.*
J. G. FOSTER, *Lieutenant Colonel Engineers, and Brevet Major General United States Army.*
Profesor WESLEY NEWCOMB, *Civil and Mining Engineer.*

42d CONGRESS, *2d Session.* } LETTER FROM THE SECRETARY OF WAR, { EX. DOC. No. 15.

TRANSMITTING

the report of the Commission to examine and report upon the Sutro Tunnel, in Nevada.

JANUARY 9, 1872.—Referred to the Committee on Mines and Mining and ordered to be printed.

WAR DEPARTMENT,
January 6, 1872.

The Secretary of War has the honor to submit to the United States Senate and House of Representatives the report of the Commission appointed by the President, under act of Congress approved April 4, 1871, to examine and report upon the Sutro Tunnel, in Nevada.

WM. W. BELKNAP,
Secretary of War.

OFFICE OF THE CHIEF OF ENGINEERS,
Washington, D. C., January 4, 1872.

SIR : I transmit herewith the report and accompanying papers of the Commission appointed under the authority of the act of Congress approved April 4, 1871, " to examine and report upon the Sutro Tunnel, in the State of Nevada, authorized to be constructed by an act of Congress approved July 25, 1866, with special reference to the importance, feasibility, cost, and time required to construct the same ; the value of the bullion extracted from mines on the Comstock lode ; their present and probable future production ; also, the geological and practical value of said tunnel as an exploring work, and its general bearing upon our mining and other national interests in ascertaining the practicability of deep mining."

The report presents the views of the Commission briefly and clearly.

Under the head of *importance of the tunnel*, the Commission is of the opinion that the tunnel is not a necessity for ventilation or drainage, but that any scheme which promises increased economy in working the mines and rendering valuable the vast amount of now worthless low-grade ores in the Comstock lode, becomes of national importance. Whether the Sutro Tunnel project fulfills this condition of economy depends, in the opinion of the Commission, upon the practicability of securing a sufficient water-power from the Carson River, at all seasons, for the reduction of the ores, and upon

the efficacy of the methods employed in Germany and other countries in Europe for the concentration of ores. On the first point the commission has no doubt. ' On the second it has not been able to obtain the desired information.

On the *feasibility of the tunnel,* the opinion of the commission is in favor of the entire feasibility of the project, so far as its construction is concerned.

The *cost of the tunnel,* the branch, and all the shafts, is estimated at $4,418,329 50 in gold.

The *time of completion* is estimated at three and one-half years, which may be reduced to two and one-third years, if machinery be judiciously employed.

The *value of the bullion* extracted from the mines of the Comstock lode, according to the information the commission was able to gather, is $125,000,000.

The *present annual production* the commission places at $15,000,000.

As regards *the probable future yield,* the commission says :

No claim can be made to anything like accuracy, except in the few instances in which ore-bodies are now developed. The commission has already stated its belief in the lode being what is known as a true fissure-vein, or as continuing downward indefinitely in the crust of the earth ; but whether the vein will continue to be ore-bearing cannot be predicted with any degree of certainty. It is a matter of opinion, to be based, however, upon probabilities and the actual results experienced in deep mining in other parts of the world. These, in the judgment of the commission, favor the finding of ore down to the lowest depths that can be reached ; and that this opinion is shared by most of the mining authorities seems to be shown by their continued downward search.

The report concludes with the opinion that, as an exploring work for deep mining, the Sutro Tunnel may justly claim favorable consideration. The information to be obtained from an examination by a commission of the methods followed in the mines of Germany and England, appears to be of such importance as to recommend itself to the favorable consideration of Congress.

Very respectfully, your obedient servant,

A. A. HUMPHREYS,
Brigadier General and Chief of Engineers.

The Hon. the SECRETARY OF WAR.

REPORT OF THE SUTRO TUNNEL COMMISSION.

OFFICE SUTRO TUNNEL COMMISSION,
New York, December 1, 1871.

GENERAL : I have the honor to forward herewith the report of the Sutro Tunnel Commission, and in separate packages, the following :

Package containing maps, plans, and drawings, marked from 1 to 11 inclusive.

Package containing estimate, circular letter, reports of superintendents of mining companies, &c., marked from A to L inclusive.

The special information asked for by Mr. Sutro was received in time to be used in making the report ; but the paper which he was requested to furnish, inasmuch as the opponents of the project had been invited to do the same, has not come to hand. It may be expected daily, and when received will be forwarded with request that it be added to the papers accompanying the report.

Very respectfully, your obedient servant,

H. G. WRIGHT,
Lieutenant Colonel of Engineers, Breret Major General,
Senior Officer of Commission.

Brigadier General A. A. HUMPHREYS,
Chief of Engineers, United States Army,
Washington, D. C.

OFFICE SUTRO TUNNEL COMMISSION,
New York, November 30, 1871.

GENERAL : The commission appointed under the authority of the act of Congress approved April 4, 1871, " to examine and report upon the Sutro Tunnel in the State of Nevada," having completed the duties assigned to it under said act, has the honor to submit the following report :

The members of the commission met in this city, in pursuance of your instructions, on the 9th of June, and after organizing and making the necessary preliminary arrangements, including a visit to and examination of the Hoosac Tunnel in Massachusetts, proceeded to Nevada, arriving at Virginia City on the 29th of that month, and at once entered upon the duties with which they were charged. From that date to the 7th of August the commission was constantly occupied with its investigations, during which period it examined pretty thoroughly the mines on the Comstock and other lodes in the vicinity, the country in the neighborhood within a general radius of fifteen miles, with a view to ascertaining its topographical and geological character, and conferred with the mining authorities, miners, and others interested in the great and almost sole industrial interest of that section of Nevada.

Every facility was afforded the commission by the mining authorities and the people generally ; the desire seeming to be on all hands to give the opportunity for a full and complete investigation of a subject in which the entire community was so deeply interested. To the superintendents of the various mines the commission is especially indebted for the large mass of information afforded by them, both verbally and in writing, in relation to the mines under their control. The latter portion will be found in their reports in the appendix, made in reponse to the interrogatories of the commission, a copy of which is also appended. To those papers frequent reference will be made in the course of this report. Mr. Sutro, the projector of the tunnel, was also present during most of the time the commission was in Nevada, and was always ready to afford information, and, from his familiarity with the subject, to suggest ready means for obtaining information from other sources.

The duties of the commission, as prescribed by the law under which it was appointed, were, " to examine and report upon the Sutro Tunnel, in the State of Nevada, authorized to be constructed by an act of Congress approved July 25, 1866, with special reference to the importance, feasibility, cost, and time required to construct the same ; the value of the bullion extracted from the mines on the Comstock lode ; their present and probable future production ; also, the geological and practical value of said tunnel as an exploring work, and its general bearing upon our mining and other national interests in ascertaining the practicability of deep mining."

To the above points the investigations of the commission, although naturally embracing a wide range, were particularly directed, and to them this report will be strictly confined, treating of them in the order in which they are given in the act above quoted.

Importance of the Tunnel.

In treating of the importance of this work, it seems proper to give a brief general description of the Comstock lode, referring for an account of its geological character to that part of the report which treats of the "geological and practical value of said tunnel as an exploring work."

The term *lode* is applied to "any regular vein, whether metallic or not, but commonly to a metallic vein," and will in this report be considered as applying to that fissure in Nevada which traverses Virginia City and Gold Hill, and is generally known as the "Comstock." This fissure or rent in the earth has an extent not yet fully developed, but which reaches certainly from the Ophir mine on the north to the Uncle Sam and Overman on the south, a distance of 12,000 feet. Beyond these points the lode is supposed to extend to the north and south to the Seven-miles Cañon in the former direction, and to the American Flat in the latter. It may, therefore, be said that while the fissure itself is believed to have been traced from the diggings known as the Utah mines on the north to the locality known as the American Flat or "American City" on the south, a length of about 22,000 feet, yet the portion of the lode now worked is comprised between the Ophir on the north and Overman on the south, or a distance of about 12,000 feet, or, say, two and one-quarter miles. This portion of the lode may, as is usually done, be divided into three groups, the "Ophir," the "Gould & Curry," and the "Gold Hill." The two former may be considered as within the limits of Virginia City, the last being in the town of Gold Hill; the two towns being, however, so connected that the stranger is at a loss to determine where one ends and the other commences. Both of these towns rest absolutely upon the lode, and the mine-shafts rise directly in the midst of the streets and houses. The lode has a dip or angle of inclination to the east of about 45°, varying in either direction some 10°. This variation, as might be expected, often occurs within small limits of extent of the vein, but generally keeps within those of 38° and 55° of inclination to the horizon.

The croppings or surface indications of the lode are generally west of the towns of Virginia City and Gold Hill, which, as before remarked, are in most part over the workings of the lode.

In the earlier days of mining upon the Comstock, the work was prosecuted to some extent by means of adits or horizontal tunnels; but as depth was attained, this process was necessarily abandoned owing to the configuration of the country immediately about it, and working by means of vertical shafts was exclusively followed. All the mines of the lode now worked are operated in this manner—that is, a vertical shaft is sunk in the "east country" rock, which, at a depth that can be pretty closely estimated, will reach the lode, and after passing through it into the "west country" rock, which, at a depth that can be pretty closely estimated, will reach the lode, and after passing through it into the "west country" rock, is generally continued in the latter upon an angle corresponding with the inclination of the west wall at the point of junction. From these shafts at various depths or "levels," usually about 100 feet apart, drifts or small tunnels are run horizontally in various directions through the lode to ascertain its ore-bearing character; and through them the ore and débris are brought to the shafts and raised to the surface by steam-power. The water met with in the workings is pumped to the surface through these shafts by the agency of the steam machinery, and air for ventilation is forced by blowers down the shafts, through wooden boxes, and distributed through pipes to the various working headings.

The ore thus brought to the surface is taken from the "dumps," in which it is first deposited, by wagons or railway-cars, and transported to the mills for reduction. These mills are scattered over the country wherever water is to be found, the greatest distance being about eighteen miles. With the exception of those on the Carson River, which are run by water-power, these mills are worked by steam; the water to be obtained being sufficient for the purposes of reduction only, and not for power. Indeed many of these steam-mills were idle during our visit for the want of water, and the water-mills on the Carson River were generally working up to a part only of their capacities for the same reason.

In the early days of mining on the Comstock lode, several excellent wagon-roads of easy grades were constructed, leading to the mill-sites and to the sources of supply of the lumber and the fuel needed in the working of the mines; but these are now in a great degree supplanted by a railroad recently constructed from Virginia City to Carson City, passing through Gold Hill, and having branches leading to the principal reduction-works, By this road a large part of the ore extracted from the mines is transported to the mills, and most of the lumber and wood used for mining purposes is brought back on the return trips. This road, which is a fine example of railway engineering over a difficult country, is about twenty-two miles in length, not including its branches, and is reported to have cost about $2,000,000. It is about to be connected with Reno, a station on the Central Pacific Railroad, by an extension from Carson City to the latter point, but at the time of our visit its principal business was the transportation of ore from the mines to the mills, and of lumber and fuel for the supply of the mines.

One of the objects of the tunnel, as will be seen further on, is to change almost wholly the mode of working the mines just described. The tunnel, which is to be nearly rectangular in cross-section, having a height of 12 feet, with a width at bottom of 14 feet, and at top of 13 feet, commences at a point in the valley of the Carson River, and running in a direction nearly perpendicular to the Comstock ledge, is to intersect it at a level of 1,898½ feet below the point of the croppings, marked A on the map, to which the various levels of the mines are referred. At or near this point of intersection a cross-tunnel of similar dimensions is to run along the ledge, and to communicate with all the mines A commencement of 70 feet only in length has been made on the main tunnel, more with a view to showing what is designed than for any other purpose, and a drift six feet by seven in cross section had been extended under the intervening mountains about 2,300 feet at the time of our visit It is understood that this length had been increased to 2,530 feet on the 14th of November. The map No. 1, herewith, of the country in the vicinity of the Comstock, shows the positions and directions of the main and cross tunnels, and the sheet marked No. 2, a section and profile of the grounds on the line of the tunnel. The cross section of the tunnel and of the drift or preliminary tunnel, upon which work is at present prosecuted, are shown on sheet marked No. 3. The length of the main tunnel will be 19,790 feet, or about three and three quarter miles, and the cross tunnel, if extended only so far as to include the mines now being worked, about 12,000 feet, or about two and one-quarter miles. Should the ledge north of the Ophir and south of the Uncle Sam and Overman be again worked, the cross-tunnel must be increased in length correspondingly. In our estimates of costs we have considered the main and cross tunnels separately, and have restricted the latter to the limits of the Ophir on the north and the Uncle Sam and Overman on the south. Drawings exhibiting plans of all the mines within the above limits will be found with this report, marked 4, 5, 6, 7, 8, 9, 10, and 11.

The principal advantages of the proposed tunnel in relation to the mines, as claimed by Mr. Sutro, may be stated briefly as follows:—

1st. The improved ventilation of the mines, resulting from the current of air which, entering the tunnel at its outer extremity, and passing through it and up into the mines and out at their present shafts, will so cool and purify the heated, stagnant atmosphere of the drifts and stopes as to preserve the health of the miner and enable him to accomplish a greater amount of labor than would otherwise be possible.

2d. The drainage of the mines above the level of the tunnel—an object which is now accomplished by means of costly machinery and at great expense. On the connection of the tunnel with a mine, the water in the latter would discharge itself without the intervention of machinery and without cost.

3d. A largely increased economy in the working of the mines by taking the ore through the tunnel to reduction works at its mouth, instead of raising the same to the surface and transporting it, often to a much greater distance, to the mills now established.

4th. Its value as an exploring work in cutting at considerable depths several mineral veins or lodes known to exist to the eastward of the Comstock, all of which have been, and at some points continue to be, worked for the precious metals; also, in a geological point of view, in determining the depth at which precious ores will be found in our country in what may be considered as true fissure-veins.

These claims on the part of the advocates of the tunnel will be considered in the order in which they have been stated, with the exception of the last, which can be more properly treated under the head of "the practical value of said tunnel as an exploring work."

Ventilation.

At the time the tunnel was projected, and the act of Congress of July 25, 1866, was passed, the mines on the Comstock lode were undoubtedly much embarrassed in their operations by the lack of proper ventilation. The atmosphere in their stopes and drifts was hot and stagnant, and any relief, such as was promised by the tunnel, might well be viewed as indispensable by the mining authorities and miners to the further prosecution of their search for the precious metals. A stagnant atmosphere and a temperature of over one hundred degrees might well occasion misgivings of success in their attempts upon the lower and therefore hotter levels. At that time each mine was worked independently of the others, upon its own ground, with its single shaft forming the only communication between its stopes and drifts and the surface. Without the aid of mechanical ventilation, it is not surprising that at a depth of three or four hundred feet even, the air of the mines should have severely taxed the miner's powers, and induced the belief that further search into the heated bowels of the earth would be impossible, unless some artificial aid, such as the proposed tunnel promised to afford, should be provided.

But this very necessity for an improved and increased ventilation indicated one of the means by which it might, in a great degree at any rate, be accomplished. The drifts of contiguous mines were connected together, an air current was established down the shaft of one and up the other, passing in its transit through such of the drifts, stopes, and winzes as were between them, thus purifying and cooling the atmosphere in those parts of both. For the portions of the mines which were influenced imperfectly or not at all by the current of air thus established, recourse was had to blowers operated by the steam-power employed in hoisting. By means of these blowers air could be forced through pipes to all parts of the mines not affected sufficiently by the natural ventilation established by the subterranean connection just alluded to. At the time of our visit, the mines were generally well ventilated, and the miners with whom we conversed did not complain; and in the cases in which a more effective change of air was needed, steps were being taken to accomplish it.

It is, therefore, the opinion of the commission that, while the proposed tunnel would increase and improve the ventilation of the mines and possibly dispense with the use of some part of the means for artificial ventilation now employed, it is not a necessity for ventilation. Even with all the aid that the tunnel can be expected to afford, it is the opinion of the commission that mechanical ventilation by blowers, operated by steam or other power, would still be needed at the headings and in the stopes where the air from the tunnel would not penetrate.

According to natural laws as at present understood and received, the air entering the proposed tunnel would pass through it and up the shaft of the mines by the easiest and therefore by the most direct channels, thereby conferring little if any benefit upon the stopes and drifts not in the line of such direct transit. Hence the necessity which is assumed for a continuance of mechanical ventilation for certain portions of the mines after the completion of the tunnel.

And here it may be proper to allude to certain anomalies observed in the ventilation of the mines on the Comstock lode, as well as in mines upon lodes lying to the eastward. According to the received laws of ventilation it would have been assumed that in the case of two shafts connected at bottom by drifts, the air current would pass down the lower and through the drifts up the higher, and that this rule would be without exception where not influenced by circumstances of situation or artificial causes; that, in the case of a long adit or tunnel, the inner extremity of which was connected with the surface by a shaft, the outer being directly upon the side of the mountain, the current would be through the tunnel and up the shaft. In the former case the current was found to be sometimes in one direction and sometimes in the other, it having been permanently changed in one instance, after the occurrence of a fire in one of the mines thus connected; the down-draught having been through the shorter shaft before the fire, and through the longer ever since. In the latter case, which applies to two tunnels visited by the commission, the down-draught was into and downward through the shafts and out of the tunnels in a very strongly perceptible current. In view, therefore, of these anomalies, it would seem uncertain whether the current of air would pass through the proposed tunnel into the mines and out through the shafts, or the reverse. So far as the ventilation is concerned, it will be of little importance which way the current should pass. Probably the mines would be the more benefited by its passing downward through them and out of the tunnel than in the reverse direction.

Drainage.

In the early days of mining upon the Comstock, much trouble was experienced from water which accumulated in the mines, and occasioned the necessity for powerful and expensive machinery for drainage. When, therefore, the tunnel was proposed, it was looked upon as an important accessory to further mining operations in affording a ready and effective means of draining the ledge without the recourse to costly mechanical contrivances. It was then assumed, naturally enough, that the lower the depth the greater the amount of water to contend against, and serious doubts appear to have been entertained of the possibility of freeing the mines from water by mechanical means. The construction of the tunnel seemed, therefore, a necessity. But as greater depths were attained it was discovered that the water, instead of permeating the earth to an indefinite extent, was mainly confined to near the surface; that below a few hundred feet it was struck in limited quantities only. It was also discovered that this water, instead of being generally diffused, was collected in pockets bounded by impermeable seams of clay, which, when pierced had only to be drained to exhaust the supply. As the mining operations have increased in depth, these pockets or reservoirs have become less frequent and formidable, till in many of the deepest the water is not only not troublesome, but is found in less quantity than is needed for the purposes of the mines themselves, thus necessitating the purchase of water from the company which furnishes the same to the inhabitants of Gold Hill and Virginia City, or from other and wetter mines. By reference to the statements of the superintendents, appended to this report, it will be seen that the cost of pumping for all the mines did not, probably, exceed $150,000 for the past year, and that in some of them there was no water at all. This sum exceeds that arrived at by the commission —viz. $124,674—which was obtained by taking the costs as given for the mines, so far as reported, and estimating for the others.

Taking, then, the observations of the commission in connection with the statements of the superintendents of the mining companies, we are of the opinion that the tunnel for this purpose alone is not a necessity for the drainage of the Comstock lode. That it will effectively drain all those with which it shall be connected is obvious; but the same result can be attained by present means at less cost—a cost which, moreover, promises to become still smaller as the mines progress in depth.

Economy of Working, etc.

Under the present system of operating the mines, the ore and the refuse rock are raised to the surface through the shafts by steam-power, the ore being transported to the mills by wagons or by the railroad before alluded to, and the refuse rock deposited at the dumps contiguous to the shafts. The items of expense, as given by the superintendents, vary somewhat, as might have been expected, in view of the different circumstances in each. The average of certain of the more important of them may, however, be stated with sufficient accuracy, as follows:

Cost per ton of hoisting from depths varying from 1,250 to 1,750 feet, being the average reported for seven of the principal mines of the lode	$0 51.17
Cost of pumping for the year ending June 30, 1871, as arrived at by the commission, by taking the cost of the mines as far as reported and estimating for the rest	124,674 00
The superintendent of the Ophir mine, a very intelligent man, estimates the total cost for pumping on the Comstock lode for the past year as not exceeding	150,000 00

If we assume what appears from the reports and from other sources as an average yield of the mines—viz: 365,600 tons annually—the cost for certain items of expense by the present method of working will be as follows:

Hoisting 365,600 tons of pay ore, at 51.17 cents	$187,077 52
Transportation of same to mills, at $1 50	548,400 00
Pumping for last year (commission's estimate)	124,674 00
Hoisting and lowering 3,000 miners, at 8 cents each way, or 16 cents each	175,000 00
Total	1,035,151 52

In the above statement the cost of hoisting the refuse rock from the drifts, winzes, &c., is not included, as the quantity is wholly indeterminate, being the greatest in those mines where prospecting alone is being carried on, and the least in those which are working upon ore bonanzas. Indeed, in the latter the amount of débris is inconsiderable. It would be of the highest importance to a full and accurate comparison of the cost of working the mines by the present method and by the tunnel, to introduce this item, as it is very considerable, and the expenditure per ton for hoisting it is the same as for ore; but this seems quite impossible, owing to the indefiniteness of the quantity of refuse removed from the mines.

In considering the cost of operating the mines by the tunnel, it must be stated that, under the provisions of the act of Congress approved July 25, 1866, the tunnel company is authorized to collect from all the companies mining upon the Comstock lode a royalty of $2 per ton for each and every ton of ore taken from the mines after the tunnel shall be connected with them, whether the tunnel be used by the mines or not; that a tariff of 25 cents per ton per mile (or such lesser sum as may be agreed upon) for the transportation through the tunnel may be established; also a charge of 25 cents each way for every man connected with the mines who is carried through the tunnel. The cost of working the mines through the tunnel, as compared with the same items as given above for working by the present method, may then be stated as follows:

Lowering 365,600 tons pay-ore to tunnel level, at 10 cents	$36,560 00
Transportation of same an average of five miles, at $1 25	457,000 00
Transportation of 3,000 workmen, at 50 cents=$1,500 per day	547,500 00
	1,041,060 00
To this should be added the royalty of $2 per ton, which for the average production of 365,600 will amount to	731,200 00
Which makes a total of	1,772,260 00

The item of drainage is not included in the above, as the tunnel will thoroughly drain all the mines connected with it without cost. This is not a favorable showing for the economy of working by the tunnel, but it should be stated that while the act of Congress authorizes the tunnel company to make a charge of 25 cents per ton per mile for transportation of ore, rock, débris, &c., it is claimed by Mr. Sutro that such transportation can be done profitably at 10 cents per ton, and that no higher tariff will be demanded. It is also understood that a similar diminution will be made in the charge for transportation of workmen. Such reductions in tariff would make a material change in the estimate given above, which would then stand as follows:

Lowering 365,600 tons pay-ore to tunnel level, at 10 cents	$36,560
Transportation of same an average of five miles, at 50 cents	182,800
Transportation of 3,000 workmen at 20 cents, or $600 per day	210,000
	438,360
Royalty on 365,600 tons ore, at $2	731,200
Total	1,169,560

Even with this reduction in tariff, the balance would be against working through the tunnel when the royalty, which is the most important item, is included (at lower levels the comparison would be more favorable); and were there no other considerations to be taken into account, the opinion of the commission would necessarily be against the tunnel in the point of economy of operating the mines.

Before presenting these other considerations it should be stated that not one of the superintendents of mines has expressed himself in favor of a change in the present mode of working; and that some of them have given the opinion, in effect, that should the tunnel, when completed, with all its drifts and branches, be offered free of charge, not one mine on the Comstock would be operated through it, for the reason that the present mode of working would be cheaper and more expeditious. This opinion is, no doubt, founded upon the supposition, as it is indeed stated in one of these reports, that the ore taken through the tunnel to its mouth is afterward to be transported to the present mills, thereby involving a cost for transportation about equal, perhaps, to what is now paid for carrying the ore from the mouth of the shafts to the mills. Were the present mills to be employed for the reduction of the ore brought out through the proposed tunnel, this opinion would, no doubt, be correct, and the tunnel project would have to be condemned. But it is a part, and an essential part, too, of the scheme to have reduction works at the mouth of the tunnel, to be operated by the water-power of the Carson River, by which the cost of the further transportation of the ore alluded to above will be saved. This plan, which is one of the considerations to which we have referred, would involve the suppression of the present mills, or at any rate such of them as now draw their supplies of ores from mines which would use the tunnel, and also seriously injure financially the railroad leading to Carson City, which was built for, and mainly depends upon, the carrying of the ores to the reduction works. So far as the milling interests are concerned this would be of comparatively small consequence, and the machinery requires renewal in large part every two or three years, and the mills would be maintained in the interval with a view to their abandonment on the completion of the tunnel or to the transfer of their machinery to new sites at its mouth. To the railroad, however, the results would be more injurious, as the interest outside of the transportation of ore, timber, and other supplies for the mines, would probably not be sufficient for its maintenance. How far these injuries to vested interests should influence action in regard to the construction of the proposed tunnel, is not for the commission to determine. It is clear, however, that the successful working of the tunnel would have an effect upon the railroad similar to that which the latter has produced upon the very excellent and costly wagon-roads which were constructed to facilitate transportation in the earlier days of mining upon the Comstock.

As has been stated, the tunnel project includes, as an important and, indeed, inseparable adjunct, the establishment of mills at its mouth, for the reduction of the ore; and in order that these should be separated cheaply and successfully, a sufficiency of water-power is necessary. Water, to some extent, may be counted upon from the drainage through the tunnel, a quantity sufficient, perhaps, for purposes other than motive power, but not for running the mills, the power for which, supposing water only is to be used, is to be had from the Carson River alone.

This stream, which has its sources in the Sierra Nevada Mountains, and is fed almost entirely from its melting snows, is not at all times to be depended upon in its natural condition for a supply of power. Art is here necessary in aid of nature. At certain seasons of the year this river becomes a rushing torrent, overflowing its banks and covering its valley opposite the mouth of

the tunnel for a considerable extent; at others, it is reduced to a comparatively insignificant rivulet. When the commission was in Nevada, it was represented to be at about its lowest stage, and all its water, when led into the flumes, was insufficient to run the mills established along its valley to their full capacity.

In carrying out fully that part of the project which requires the establishment of mills at the mouth of the tunnel, it will, therefore, be necessary to secure by artificial aid an adequate supply of water for running them at all seasons of the year—at those times in which the flow is insufficient, as well as those in which the supply is far beyond what is necessary. This, it is believed, may be accomplished by the construction of a high dam across a narrow gorge of the Carson River, some five miles above the mouth of the tunnel, which, by damming back its waters, shall form a lake or reservoir that will afford a supply during all seasons of the year, for operating all the mills required for reduction of the ore which can be taken from the Comstock and from the other lodes which may be intersected by the tunnel. That this can be accomplished, the commission does not entertain a doubt; yet it should be understood that this opinion is based upon observation alone, and not upon its actual survey. It should be here stated, by way of explanation of the reasons why the commission did not institute surveys for ascertaining exactly all the points involved in this connection, was that it did not come within the original project of the Sutro Tunnel scheme, and its importance was not so clearly seen while the commission was in Nevada, as it is at the writing of this report, when the various data, upon which many of its conclusions are founded, have been fully examined and compared. The opinion we have expressed is, however, borne out by the rather imperfect examinations made since our visit by the tunnel company, through the agency of the surveyor general of Nevada. The commission is, however, of the belief that his results are less favorable to the project than a more detailed survey would have shown. The report of the surveyor general, furnished by the tunnel company to the commission, will be found in the appendix.

But should the foregoing be practicable, it still seems necessary to the economical working by the tunnel, as against the present mode of operating the mines, that an improved system of concentration of ores should be established. It is claimed by the advocates of the tunnel that, with an abundant supply of water, concentration works may be put up after the methods followed in the mining regions of Germany and England, by which the refuse matter may be mechanically separated from the valuable ores, so that only one ton in fifty, perhaps, need be subjected to the process of reduction for securing the precious metals. According to the accounts received of the workings of the German mines, ores assaying less than $5 per ton are mined with profit, and that in the English mines, in Cornwall, one is worked which produces only three ounces of silver, or say $3 90 per ton of ore, and two others which yield six ounces and ten ounces respectively, and all at a profit, through improved methods of concentration. The commission has exercised much diligence toward ascertaining the actual facts in regard to these statements, as they are of the highest importance in connection with the question under consideration; and it has visited the Passaic mine, at Franklin, New Jersey, and the Lehigh mine, near Bethlehem, Pennsylvania, where machines, claimed to be constructed after the models employed in Germany and England, are used in the concentration of the ores of zinc, but has found nothing that is applicable to the concentration of the ores of the Comstock lode.

The loss of precious metals in the reduction by the German and English methods is represented to be not exceeding 5 per cent., while in Nevada it is not far from 35 per cent. in milling, with a saving of perhaps 10 per cent. more in the subsequent workings of the tailings and slimes, making less than 75 per cent. in all. The actual loss in reduction, therefore, appears to be more than 25 per cent., which for a production of $15,000,000 per annum, entails a loss of the precious metals exceeding five millions of dollars, or a loss beyond what would result from the methods referred to, by which 95 per cent. is saved, of at least four millions of dollars annually.

It would appear to be very singular that this saving should not be made in the working of the most important mines in our country, if the statements just referred to are reliable. But it is denied by some of the mining authorities upon the Comstock that this statement is correct, and it was asserted that large sums had been offered in vain for producing like results. Indeed it seems quite impossible, from the information we have been able to obtain, to speak positive upon the subject. A personal examination of the foreign mines referred to by one or more competent individuals is the only sure mode of ascertaining the actual facts, as applicable to the treatment of the ores of the Comstock. Yet some better mode of reduction than is now practised in Nevada may undoubtedly be devised, which shall secure a part at least of the large amount now lost in the separation of the precious ores from the refuse matter.

Still another consideration appeals strongly for this economy in the working of the ores—in the saving of a large percentage of metal now lost in reduction. Of the bodies of ore, other than those of low grade, now known to exist in the Comstock, the greater part will be worked out before the tunnel will be completed. Whether other bodies will be discovered is a matter of conjecture. That the lode is a true fissure vein is, in the opinion of the commission, beyond question. But whether the vein will continue to be metal-bearing to indefinite depths cannot be stated with any degree of certainty, though, in the opinion of the commission, the weight of reasoning and the experience in mining in other parts of the world largely favor such continuance. But, supposing that no further deposits of the precious metals should be discovered, the tunnel, if constructed, would have to depend upon the working of the large bodies of low-grade ores, which have thus far been passed over as unprofitable under the present expensive system of mining and reduction. That such ores exist in large quantities in the mines, containing from eight or ten to twenty-five dollars per ton, is generally admitted, and seems to be undeniable. Only one of the mining superintendents with whom we conferred doubted this, and his opinion, we are satisfied from other testimony, is erroneous. Ores milling less than about $20 per ton, or assaying less than about $30, cannot be mined with profit under the present imperfect process of reduction and the high price of labor which prevails in the mining districts of Nevada. Economy must, therefore, be sought for before the immense amount of low-grade ores can be profitably worked; and this economy is to be found in improved modes of reducing the ores, including concentration; in the general application of water-power, and in the more general substitution of machinery for manual labor, rather than in a reduction of the present rates of wages. A saving of 95 per cent. of the gold and silver contained in the ore, as is asserted to be the case in the German mines of similar character to the Comstock, would go far toward giving value to the millions contained in the low-grade ores which have been thrown aside or passed over as worthless. While it is not assumed that mining can be carried on as cheaply here as in Europe, owing to the higher value of labor in our country, it is not seen why, in other respects, the cost to us should be greater, provided we adopt the same or improved means in the reduction of the ores. If, therefore, ores assaying but $5 per ton can be there mined and reduced at a profit, we do not see why ores of the same character assaying $10 may not be profitably worked with us, with our higher rates of labor. This would render valuable the vast amount of now worthless low-grade ores in the Comstock, and add millions to the world's circulation. Hence the importance to the nation of any scheme which promises increased economy in the working of mines.

Whether the Sutro Tunnel project fulfils this condition of economy depends, in the opinion of the commission, upon the practicability of securing a sufficient water-power from the Carson River, at all seasons, for the reduction of the ores, the possibility of which, though not fully proved by accurate surveys, no doubt is entertained, and upon the efficacy of the methods employed in Germany and other countries of Europe for the concentration of ores, or which we are unable to vouch.

Assuming the correctness of these two points, of abundant water and of concentration of ores, we would express an opinion favorable to the tunnel and its accessories as an economical mode of working the mines of the Comstock; otherwise, we should advise that the mines continue to be operated as at present practised.

Feasibility of the tunnel.

Of the practicability of the project there is no doubt. It is a question of cost alone. So many tunnels have been run in this, as well as in other countries, through material much more difficult, that no reasonable grounds exist for questioning the feasibility of the one we are considering. So far as surface indications are to be relied upon, the rocks to be penetrated do not differ materially from those which are met with in the operations on the Comstock, in the shafts, drifts, and winzes which have been opened in those mines in the search for the precious metals. While it is quite impossible to predict with any degree of certainty exactly what kinds of rock will be met with in the progress of the tunnel, or in what proportions, it is safe to assume that nothing will be encountered

which will offer any serious obstacle to the miner. We, therefore, dismiss this portion of the investigation with the expression of the opinion of the commission in favor of the entire feasibility of the tunnel project, so far as its construction is concerned.

Cost of the Tunnel.

In making the estimate of cost, the commission has been governed mainly by costs of shafts and drifts in the mines on the Comstock, and the *actual* expenditures as *reported* by the tunnel company in running its preliminary tunnel or drift, which, as has been stated, has already penetrated over 2,500 feet under the mountains lying between its mouth and the lode. Taking all these elements of information into consideration, an average of cost per foot of length has been deduced, which, in the judgement of the commission, is as reliable as any that can be arrived at for an estimate for a tunnel which is to run for so great a length through rocks, the character of which can only be judged of, and then only imperfectly, by surface indications. This cost, which is given for the main tunnel and its shafts separately from that of the cross or branch tunnel, is :

For the main tunnel and *four* shafts	$2,707,595 15
Fort the branch tunnel and two shafts	1,710,734 35
Total in gold	4,418,329 50

This estimate, the details of which are given in the appendix, embraces all the expenditures supposed to be necessary for the completion of the work, including machinery, fuel, shelter, superintendence, &c. It is but proper to remark, however, that its correctness will depend in a large degree upon the character of rock met with, and may be either too large or too small as the difficulties shall be found to exceed or fall short of the supposition upon which the estimate is based. The prices stated are in gold, which is the only basis of value recognized in Nevada.

Time required for the Construction of the Tunnel.

Our estimates are based upon the progress made in the shafts and drifts in the mines of the Comstock lode, and also upon the *actual* progress in the construction of the preliminary tunnel so far as it has been prosecuted, all of which have been executed by manual labor. Under this supposition of progress it will require 1,186 days, or about three and one-fourth years, for the completion of the main tunnel after the work shall have been fairly commenced at all the shafts ; and if the cross or branch tunnel be commenced at the same time, as it may be, and pushed forward correspondingly, the whole may be completed in nearly the same time ; that is, in about three and four-tenths years after vigorous operations shall have been undertaken upon all parts. But if machinery be judiciously employed, there seems to be no doubt that the tunnel may be completed in two and three-tenths years. Considerable attention has been given to the subject of the application of machinery to this object, resulting in the conviction that the time needed for the completion of the tunnel, beyond what would be required if manual labor alone were employed, may, by its use, be shortened at least one-third.

The Value of the Bullion extracted from the Mines on the Comstock Lode.

To ascertain with perfect accuracy the total value of the bullion extracted from the mines of this lode is quite impossible, owing to the almost total absence of records during the early days of mining. The commission has, however, obtained a statement of the bullion sent by express, by which it has been mainly transported, amounting for the ten years from 1861 to 1870, both inclusive, to $123,607,278 ; and it is the opinion of those well informed upon the subject that the product of the mines previously to 1861, including bullion taken away by private parties, will swell the total production, from 1859 to 1871, to $125,000,000.

Present and probable future production.

The mines which are now productive are given below, with the amount of bullion for the last year so far as ascertained ; all the other mines on the ledge being engaged in prospecting only :

1. Savage	$818,216 50
2. Hale & Norcross	1,632,500 03
3. Chollar Potosi	3,455,423 08
4. Yellow Jacket	2,000,000 00
5. Kentuck	Not reported
6. Crown Point	Do.
7. Belcher	Do.

The present annual production may, it is believed, be taken with sufficent accuracy at $15,000,000.

As regards the propable future yield, no claim can made to anything like accuracy, except in the few instances in which ore-bodies are now developed. The commission has already stated its belief in the lode being what is known as a true fissure vein, or as continuing downward indefinitely in the crust of the earth ; but whether the vein will continue to be ore-bearing cannot be predicted with any degree of certainty. It is a matter of opinion, to be based, however, upon probabilities and the actual results experienced in deep mining in other parts of the world. These, in the judgement of the commission, favortthe finding of ore down to the lowest depths that can be reached ; and that this opinion is shared by most of the mining authorities seems to be shown by their continued downward search.

Some few of the mines, as the Crown Point, Belcher, Hale & Norcross, and Yellow Jacket, have ore enough in sight to occupy them for three of fours years to come ; others, like the Savage, will exhaust all known bodies in a shorter time, while others still will have to depend for their future upon the success of the prospecting in which they are engaged, or upon the low-grade ores which have been passed over or thrown aside as not paying for the cost of working ; this last involving the necessity for a large economy beyond what is now practical in the working of the mines and in the transportation and reduction of the ores.

On the " Geological and Practical Value " of the Sutro Tunnel " as an Exploring Work."

In view of the limitations contained in the law, the commissioners confined their geological investigations to the line of the tunnel and its immediate vicinity.

To the works of BARON RICHTHOFEN, who devoted many months to a careful examination of the rock formations of the Washoe district ; to Professor Whitney, who determined by barometrical measurements the elevation of the mountains and valleys, and determined the geologic age of the deposits near Dayton ; and, finally, to the able report of Mr. Clarence King, recently issued form

the Government press, we acknowledge our obligations. With the extended labor of these gentlemen on the general geology of the country, it is not a subject of regret that economic geology, with its special application, forms the limit of our investigation.

The entire region in the vicinity of Virginia City gives the evidence an of extensive dynamical disturbance, continued through a long period of time with more or less activity. Volcanic action to an extent and of an intensity not met with in modern times, has played an important part in the formation of numerous mountain peaks, and in giving to the scenery a broken and rugged aspect, which is heightened by the sterility of the soil. Without a tree or shrub to relieve the eye, excepting the sickly-looking artemesia or sage-brush, struggling for existence, the broken and jagged trachytic rocks impart a character of wilderness to the country, and the name of " Devil's Gate," given to one of the passes, indicates the feeling which prompted the first rude settlers to bestow such a name to the rugged scenery. Passing from Virginia City eastward for a distance of four miles in a right line, we reach the comparatively fertile valley of the Carson, while within the range of vision to the northward the sand clouds may be seen sweeping over the desert region known as the Sink of the Humboldt. We do not design giving a full topographical description of this interesting but sterile country, but desire to convey the idea of the worthlessness of these mountains except for the boundless wealth in minerals which they countain.

The various ages and modes of deposit of the rock formations have an important practical bearing, and require our special attention.

Mount Davidson from its height and position, as well as from its lithological character, was the first to make its appearance amid the snow mountain peaks of the Washoe district. It is a syenitic rock, compact in structure, difficult to work, and bears important relations to the Comstock lode, forming the west wall for a considerable distance, if not through its entire extent. The elevation of Mount Davidson has been determined at 7,827 feet, its summit rising 1,622 feet above Virginia City, and has a range of outcroppings of quartz rock skirting its eastern side some 1,500 feet below its summit.

To the eastward on the line of the proposed tunnel are numerous hills, intersected by valleys or deep ravines, extending to the plains of the Carson River.

Next in order to the syenite is an extensively diffused volcanic rock called propylite, which was spread over the entire portion of the tunnel section. This is the green-stone or " green-stone trap " of the miners, and works with great facility. It is thickly studded with fine granules and occasionally with distinct crystals of sulphuret of iron. It is important as furnishing the eastern or hanging rock of the Comstock lode.

Through the propylite, at a later period, volcanic craters have been opened, and formed by their ejections hills or mountains of considerable elevation, varying much in their color, compactness, and the circumstances attending their formation. The most common variety of this trachytic rock is a simple greyish, pasty mixture, with its particles loosely cemented together, easily worked with the pick, except at considerable depths, when it becomes compact and is useful as a building-stone. The structure of the rock indicates that the volcanic ashes of which it is composed were ejected in connection with water or steam and cooled rapidly after its deposit. The mud volcanoes of Western Mexico furnish a type of this form of deposit. Another variety of the same color, with numerous crystals of glassy feldspar diffused through its mass, from which it has received the name of sanadin trachyte, was deposited in a similar manner, but cooling slowly gave an opportunity for the play of chemical affinities, by which the crystals were formed, and a more compact structure of the rock resulted.

A third variety, with a color ashy grey, or of a more or less deep red color, is found one and a half miles from the mouth of the tunnel. With the same chemical constituents, except the addition of oxyde of iron, we have in this a firm, hard rock, working with difficulty.

Still another variety of considerable practical importance is met with, which has been passed through for a distance of 750 feet at the commencement of the tunnel, which may be distinguished under the name of trachytic conglomerate. It is characterized by numerous angular masses, sometimes of great size, cemented together by the ash-colored trachytic matter, and offering to the drill and giant powder serious obstacles to rapid progress in the work of constructing the tunnel. This formation is due to the breaking down of the walls of the crater and the projection of their broken-up, angular masses into the ashy deposits from the volcano. These walls were, at this place, composed of metamorphic porphyry, the fragments of which are now held together firmly by the cementing material.

Numerous recent instances might be cited for illustrating the action of ancient volcanoes, the same laws which governed in former times being operative at the present, but with far less intensity.

In 1813 a volcanic eruption of ashes occurred on the Island of St. Vincent, which fertilized the Island of Barbadoes, the ashed falling in Bridgetown to a depth of several inches. The amount of material thrown out must have been immense, as the transfer was made in opposition to the trade-winds.

The once beautiful and symmetrical volcano of Consaguina, in Central America, some forty years ago exploded with a report heard at Santa Fé de Bogota, a distance in a right line of one thousand eight hundred miles, and emitted ashes in such quantities that, for hundreds of square miles, the sun was obscured, and for ten days made a midnight darkness over most of Honduras and San Salvador. The ruins of Pompeii and Herculaneum furnish us with well-known examples of similar volcanic eruptions.

The other formations on the line of the tunnel are of much less consequence in this connection At the St. John's mine, on the Monte Christo lode, is a deposit of granular limestone, which disappears at some 200 feet in depth where the propylite is in place.

Andesite, a hard hornblendic rock, caps one of the hills near the route of the tunnel. This is of volcanic origin, and is only less hard than obsidian, of which a few scattered specimens were met with.

To recapitulate, we have for a basis the syenite of Mount Davidson, then propylite, (with porphyry,) sanidin trachyte, loosely aggregated, and compact trachyte, trachyte conglomerate, andesite, and carbonate of lime on or near the line of the tunnel.

It becomes a matter of much importance to determine the character of the rock of excavation in estimating the cost of construction and the time required to complete the tunnel. The quartzite met with in the Hoosac tunnel has greatly impeded the progress of that great work, causing a weary delay, and leading to great expense in construction. With this example before us for not relying upon surface indications alone for the character of the rock excavation, your commissioners sought every indication possible for obtaining a correct idea of the formations through which the Sutro Tunnel will be required to penetrate. We were still more strongly impressed with the necessity for using great precaution in our determinations, as unexpected results had already been obtained in the portion of the tunnel or heading which had been driven some 2,300 feet. The surface indicated that, for this and a much greater distance, the tunnel would pass through trachytic rock only. On the contrary the following results were obtained, viz :

	Feet.
1. Trachytic conglomerate	750
2. Trachyte	500
3. Trap-dyke	40
4. Red clay	70
5. Blue clay *(porphyritic)*	100
6. Porphyry	840

The firmness of the conglomerate will be sufficient to support itself without timbering. All the others will require this support, and the blue clay continually acts upon and crushes the frame-work, requiring constant care and frequent excavations behind the timbers to prevent the complete closure of the adit. This difficulty is encountered in many of the mines, until the clay becomes sufficiently dry to resists the great pressure of the vast body of the same material behind it. No part of the Tunnel will cost as much per hundred feet as that the passing through this clay.

In an economic view, the porphyry and propylite may be considered the same, having about equal density, and working equally well under the drill. In the former a greater liability exists of encountering clay seams, as a result of the disintegration of the feldspar, which enters largely into its composition.

With but comparatively slight exceptions, these two formations will be the only ones encountered in the construction of the tunnel, for they underlie the trachytic and other volcanic rocks, and, except in chimneys, these later formations will not be encountered.

The propylite by exposure to moist air too readily disintegrates in consequence of the changes effected in the sulphuret of iron, with which it is filled, and will require to be timbered in consequences. All the circumstances named have been taken into consideration in forming an estimate of cost, and as an element in determining the time required in construction.

By the cooling of the vast field of propylite which had been poured out, we moy assume that the contraction was sufficient to cause a vast fissure near or at its junction with the sienite.

The period of active volcanic movement again occurring, there was injected from below a body of quartz in quantity sufficient to fill this fissure. Practically, it does not matter whether this was accomplished by solfataric action or by direct volcanic forges, or whether we consider the metallic wealth deposited in the lode by super-heated steam and the action of acids, or consider that with the silex the gold and silver were thrown up by the same force

We know that for a distance of five miles, with a varying width of from 50 to 500 feet, and to an unexplored depth, the Comstock lode is found one of the richest, most productive and extensive in the records of mining.

It is, however, of very great importance to determine whether the Comstock be a true fissure-vein, as declared by most intelligent geologists, or be but a gash-vein, with its material filled in from adjacent rocks. The permanency of the mining interests of Nevada depends upon which of these views prove correct. In the first contingency we may claim that no true fissure vein has ever been worked out, and from analogy we may draw the conclusion, with a good degree of certainty, that the Comstock cannot be exhausted by the labor of man. If but a gash-vein, the conditions are so changed that exhaustion must at no distant day be the result. In a careful examination of the rocks near the lode, we do not find a loss of any proportion of the quartz which belongs to them. From whence, then, could this mineral have been derived? Again, the only source of supply by washing in must have been obtained from a higher level, or the syenite of Mount Davidson. This would imply a decomposition of that rock ; and the hornblende, one of its constituents, would as readily be carried into the opening as the quartz. The hornblende is not found minghng with the silicious deposit, therefore the latter could not have been received from the syenite.

We are left to the only possible explanation of the occurrence of this wonderful deposit, *i. e.*, that it is a true fissure-vein filled from below, and, like other fissure-veins, extends to a depth beyond the power of man to reach. The explanation of the clay selvages bounding the vein-matter, the formation of "horses" by the falling of portions of the hanging rock, the exhaustion of rich bonanzas or bodies of paying ore, the barren condition of much of the quartz, are none of them peculiar to the Comstock lode, but are met with in other mines of a similar character, and have been fully described elsewhere. The crushed and crumbly condition of much of the vein-matter has been ascribed to dynamical action, supplemented, doubtless, by chemical changes in the sulphurets met with in considerable quantities in the lode. With reference to the future productiveness of the mines, until carefully explored at deep levels, much must be left to conjecture. The mere fact that the Comstock is a true fissure-vein establishes that the vein-matter or quartz extends downward indefinitely, but does not prove that this material is charged with the precious metals. Reasoning from the past history of fissure-veins in other countries, we have just grounds for believing that the metallic wealth, thousands of feet below the surface, will fully equal or be even greater than that from higher levels. The Sampson mine in Germany has reached a depth of 3,000 feet without any diminution of its yield of silver. This, compared with the Comstock, is a small vein, but for that very reason is far more likely to be lost by a fault than one of the magnitude of the lode under consideration.

It is quite probable that at great depths the metals are more equally distributed through the vein matter, in which case the very rich ores will not be met with, but the whole mass will yield an equally favorable result, without the large expenditures required in drifting for bonanzas. The recent discoveries in the Crown Point and Belcher mines of immense bodies of "rich rock" at nearly 1,700 feet below the initial point, is a most encouraging feature for the permanent value of the lode.

We had the privilege of examining such portion of the bonanza of the Crown Point as had been uncovered, estimated to be worth $15,000,000, with a prospect of equal value at a still greater depth. Judging from the present quotations of the Belcher stock, this latter mine should give even greater results than the Crown Point.

One other feature of the recent discovery becomes important to the mine owners and to the country. Upon the upper levels of this and some other mines, if not in all, the yield of gold was greater in value than of silver. As the mining progressed in depth, the silver yield to the ton of ore became the greater, but in the new discoveries the more precious metal is restored to its previous relative proportion.

An examination of the reports of superintendents gives us a much higher per cent. of the gold contained in the ore secured than of silver. In the report of the Savage mine, of this year, we find that the *loss* in working from the assay value of the ores is, of gold, 25 1/10 per cent., for silver, 34 2/10 per cent. The larger the proportion of gold in the ore, the less absolute loss is made in the working.

The above statement is the result of the workings in the Occidental mill, under the direct control of the Savage Company, and includes all savings from slime and tailings secured to the company.

In the Custom's mills, the report shows a less favorable result on the silver product, as follows : Gold loss, 23 1/10 per cent.; silver loss, 44 per cent.

It may not be out of place to remark that the loss on the gold product is ascribed to "float gold," which might possibly be secured by running the surface-water or "float" through sponges. The loss of silver is due to a failure in the works to secure the sulphuret of silver, and, to a limited extent, to particles of clay, carrying with them minute portions of silver, as suggested in the report of Mr. Clarence King.

It is well understood by all who have given their attention to the subject, that the metallic deposits are not equally diffused through the vein-matter, but are found in detached bodies called "bonanzas." This rule holds good in the Comstock lode as well as in all other silver lodes, having quartz as a gangue. An examination of the mining map, exhibiting the workings of this lode in detail, proves the deposition of the rich ores of the precious metals in *bodies*, and the comparatively barren quartz in other portions. There is no law yet evolved from experience or science for determining the position of these rich bodies of ore ; explorations alone can discoverer their position and value. It is, however, sufficient to know that they are confined to the vein-matter, and their discovery may be expected so long as we confine our workings within the boundaries of the "country rocks."

By the present system of working the ores from these mines, rock that yields by assay less than $30 to the ton, cannot be reduced at a profit.

The amount of low-grade ores, ranging from $10 to $35 in the Comstock lode, amounts, by the testimony of some witnesses, to millions of tons. The following forms a small portion of the evidence obtained upon this subject : Colonel Requa, superintendent of the Chollar Potosi mine, in his various reports, mentions the large amount of ores that at some future time may be made available to the owners, that with present prices for labor and by the present processes of reduction cannot be utilized. He stated, personally, that very large bodies of sixteen-dollar ore exist in the mine.

A former superintendent of the Empire and Imperial mine stated that while in charge he struck a body of ore that yielded $19 per ton, which, at the then cost of mining, transport, and reduction, did not pay. This body was prospected in the middle of the lode, more than 100 feet wide, to a depth of 6 feet only. How large this body of ore may be he was unable to state.

Mr. George Atwood, at present superintendent of the Eberhart mine, has worked as foreman, &c., for eight years on various mines of the Comstock lode, states that in the south mine of the Ophir a body of ore exists that has been mined and used for filing in stopes for a distance of 300 by 100 feet, which will average, by assay, $20 per ton. A large body in the north mine, yielding but little less, is found in place. He further states that in the Crown Point, on the 200 feet level, an estimated amount of 100,000 tons of ore, that will assay $20 per ton, may be found. Was for three years connected with that mine, and is thoroughly acquainted with the upper levels.

From our own observation, and the evidence of others, we do not hesitate in stating that vast amounts of what are designated as low-grade ores abound in these mines, that may yet be made available in increasing the national wealth.

At each extremity north and south from the principal mines the workings are carried on exclusively for gold. The Sierra Nevada Company, the most northerly of the group now in operation, is understood to be profitably engaged in working the loose

surface rock and soil. At the other extreme the Succor mine and mill, situated on Gold Cañon, are in operation; the vein of precious metal having been followed into the mountain 1,300 feet, and the ore is taken to the mill direct through a tunnel. The facilities for working and the economy exhibited has saved the stockholders from the usual heavy assessments.

A careful survey of the adit of this mine developed an unexpected fact. Following the windings of the tunnel, which kept pace with the sinuosities of the vein of ore, we reached the same character of quartz rock that had become familiar to us in the mines of the Comstock. This was an accidental discovery of the miners during a search for the gold vein, which had been lost from a fault. This "white lode" assayed $22 60 per ton. By taking the bearings by compass in this and in the Crown Point mine, they indicated a connection with each other. The theory has been that near the Overman mine the vein or lode bent around to American Flat, where it ceased. Further research may be necessary to establish with certainty the view that a branch at least of the Comstock lode passes down Gold Cañon and shows itself in the Succor mine, one and a half miles below the Crown Point.

The appearances indicate that the "white lode" and the gold vein will at no great distance unite to form a rich lead, and when thus joined the value of the gold and siver lead will be condensed into the gangue of one with the relative proportions of gold to silver now met with in the Crown Point.

The value of the proposed Sutro Tunnel simply as an exploring work is so evident as to be scarcely called in question. Cutting, as it does, at right angles two or more lodes before reaching the Comstock, that, in Europe, would be deemed valuable; the determination of their wealth or poverty would prevent further ruinous outlays in prospecting. There is no certainty that rich bonanzas will be met with in the progress of the work, but that an abundance of moderately rich ores will be found is quite probable. We found at the Occidental mine, on the Monte Christo lode, two adits or tunnels had been run, one to the distance of 1,850 feet for a considerable distance through crystalline limestone, after which porphyry and then propylite made their appearance as we penetrated the tunnel.

The quartz vein is often broken down and crumbly and colored by oxide of iron. In the limestone excavated we noticed arborescent crystals of manganese. Extensive galleries and wide chambers were met with, from which rock working from $10 to $33 had been taken. The upper tunnel had been run for 1,500 feet and connected by a shaft to the lower one. We noticed that the current of air passed down the shaft and out at the lower tunnel. Much of the quartz rock is nearly or quite barren, but we were informed that millions of tons assaying from $8 to $10 to the ton existed in the mine. We believe this to be a fair index of the character of the Monte Christo lode which we visited in other localities. What developments will be made at the great depth at which the tunnel will cross its track is, of course, uncertain. The heading which has been run will, if continued a few hundred feet farther, cut the "Great Flowery lode," with what result we are not prepared to predict.

We made an examination of ehe Lady Bryan mine, said to be located on this lode. The croppings of quartz rock is enormous in quantity, forming a hill about 100 feet high, and would yield for the whole mass, as we were informed by the superintendent, an average of $8 per ton of silver.

An open cut has been made through the hill or body of quartz rock into a large basin formed by the excavation of material, some of it valuable, but a large quantity too poor for working

Short drifts have been run into the hill-sides in various directions, which at the time of our visit were not worked. The richer ores were being assorted for milling, the mine furnishing but eight or ten tons per day of valuable material. Only ten men were employed on the works at the time, the mine having recently passed into new hands.

With reference to the tunnel cutting *blind lodes*, we are not prepared to express an opinion. the very name implying a complete want of knowledge of the subject. The possibility barely exists, with the past history of mining giving strong practical evidence against the probability of a favorable result.

As an exploring work, we think the Sutro Tunnel may claim to determine with sufficient certainty the ore-bearing character of the Great Flowery and Monte Christo lodes, and settle definitely the question whether the Comstock lode at great depths continues in richness; or, as is believed by some, becomes worthless as the deep levels are opened. It is somewhat remarkable, as bearing on this subject, that the Crown Point, once justly esteemed valuable, and ranking high in the stock board, became almost worthless under the supposition that the mine was worked out. By the energy and perseverance of the superintendent, the owners were rewarded by the discovery, at deep levels, of one of the richest bonanzas yet found on the Comstock lode, which sent the stock up from $2 50 per share to over $300. It must be borne in mind that at two or three points shafts reaching as low as the tunnel will be sunk by the time of its possible completion. This will not be so complete an exposure of the value of the lode as drifts from the lateral tunnel, made at comparatively small expense, at numerous points along its course.

We cannot but think, therefore, that, as an exploring work for deep mining, the Sutro Tunnel may justly claim favorable consideration.

Respectfully submitted,

H. G. WRIGHT, *Lieutenant Colonel of Engineers, Brevet Major General.*
J. G. FOSTER, *Lieutenant Colonel Engineers, and Brevet Major General.*
WESLEY NEWCOMB, *Civil and Mining Engineer.*

BRIGADIER GENERAL A. A. HUMPHREYS,
Chief of Engineers, United States Army, Washington D. C.

OFFICE SUTRO TUNNEL COMMISSION,
New York, December 2, 1871.

GENERAL: I have the honor to transmit herewith a letter from Mr. Adolph Sutro * in which he states that he has not been able as yet to prepare the paper which he desired to furnish relative to the advantages of the tunnel as compared with the present method of working the mines; but he incloses a printed copy of a speech delivred by him at Virginia City, in support of his project, and desires that it may be added to the appendix of the commissioners' report.

This printed speech is also inclosed, and I would ask that it be attached to the appendix of the report, as desired by Mr. Sutro. I would further suggest that his letter be also appended.

Very respectfully, your obedient servant,

H. G. WRIGHT,
Lieutenant Colonel of Engineers, Brevet Major General, Senior Officer of Commission.

Brigadier General A. A. HUMPHREYS,
Chief of Engineers, United States Army, Washington, D. C.

(*) See Appendix M.

APPENDIX A.

Estimates of cost of the Sutro Tunnel.

Cost of sinking shaft No. 1, 109 square feet area and depth of 530 feet, including tools, labor, and materials of all kinds, at $40 24 per foot of depth (being the average cost in the seven principal mines of the Comstock lode)		$21,327 20
Same, shaft No. 2, 109 square feet, 1,025 feet deep, at $40 24		41,246 00
Same, shaft No. 3, 109 square feet, 1,319 feet deep, at $40 24		53,076 56
Same, shaft No. 4, 109 square feet, 1,499 feet deep, at $40 24		60,319 76
Same, shaft No. 5, 109 square feet, 1,465 feet deep, at $40 24		58,951 60
Same, shaft No. 6, 109 square feet, 1,465 feet deep, at $40 24		58,951 60

Preliminary tunnels or drifts.

Cost of labor, tools, and materials of all kinds, for drift of main tunnel, 6 feet wide, 7 feet high, and 19,790 feet long, at $16 90 per running foot (being the average cost of 2,185 feet completed July 1, 1871)	$393,821 00	
Deduct value of one-half of timber of drift, which may be used again as the enlargement progresses	14,644 60	
		379,176 40
Cost of labor, tools and materials, of all kinds, used in drifts of branch tunnel, 6 feet by 7 feet, by 12,000 feet long at $19 90 per running foot	238,800 00	
Deduct value of one-half timber of drifts used a second time	8,880 00	
		229,920 00
Cost of enlargement of drift to full size of tunnel, 13½ feet by 12 feet, by 19,720 feet long, 2,366,400 cubic feet, at 25 cents		591,600 00
Same, of branch tunnel, 12,000 feet long, 1,440,000 cubic feet, at 25 cents		360,000 00
Cost of timbering main tunnel full size, 19,720 feet in length, at $17 34 per running foot		341,944 80
Same, of the branch tunnel, 12,000 feet, at $17 34		208,080 00
Cost of general material and sundries, including surveying instruments, large transit building for the same, boarding and lodging houses, barns, horses, carts, magazines, blowers, air-pipes, &c., for four shafts of main tunnel		66,439 00
Same, for branch tunnel, two shafts		20,000 00
Cost of hoisting and pumping engines and machinery for four shafts of main tunnel		121,679 00
Same, for branch tunnel, two shafts		108,930 00
Cost of boilers and parts, four shafts, main tunnel		33,736 40
Cost of boilers and parts, two shafts, branch tunnel		25,256 00
Cost of labor and materials for the erection of machinery, and temporary buildings to cover the same, fort the four shafts of main tunnel		32,265 00
Same, for the two shafts of branch tunnel		21,510 00
Cost of material and time employed in attending machinery during the sinking of four shafts, main tunnel		138,734 27
Same, for the two shafts of branch tunnel		82,489 50
Same, during the running of the preliminary tunnel of the main tunnel		324,784 90
Same, of branch tunnel		216,523 26
Cost of appliances for hauling rock and ore out of main tunnel		50,000 00
Cost of appliances for hauling rock and ore out of branch tunnel		35,000 00
Add for office expenses, superintendence, engineering, and contingencies, 20 per cent		736,388 25
Total cost in gold		$4,418,329 50

RECAPITULATION.

	Main Tunnel	Branch Tunnel
Sinking shafts	$175,969 52	$117,903 20
Running preliminary tunnels	379,176 40	229,920 00
Enlargement of drifts to size of tunnel	591,600 00	360,000 00
Timbering full-size tunnel	341,944 80	208,080 00
General materials and sundries	66,439 00	20,000 00
Engines and machinery	121,679 00	108,930 00
Boilers and attachments	33,736 40	25,256 00
Erection of machinery and temporary buildings for same	32,265 00	21,510 00
Attending machinery in sinking shafts	138,734 27	82,489 50
Ditto in running preliminary tunnels	324,784 90	216,523 26
Endless wire-rope, &c	50,000 00	35,000 00
	2,256,329 29	1,425,611 96
Office expenses, superintendence, engineering, contingencies, 20 per cent	451,265 86	285,122 39
	2,707,595 15	1,710,734 35

Total time to complete main and branch tunnels (manual labor)	3 4/10 years.
Total time to complete main and branch tunnels (by machinery)	2 3/10 years.

APPENDIX B.

Circular to superintendents of mines.

OFFICE SUTRO TUNNEL COMMISSION,
Virginia City, Nevada, July—, 1871.

SIR: By the act of Congress approved April 4, 1871, this commission is required to report, among others, upon the following points, viz:

1. The value of the bullion extracted from the mines on the Comstock lode.
2. Their present and probable future production.
3. The geological and practical value of said tunnel as an exploring work.

Much of the information required by the above can be obtained only from the companies engaged in mining on the Comstock lode; and as regards the rest, the information which the companies can afford will be of the highest value to the commission in the discharge of its duties. I am, therefore, instructed to request of you your views in writing, upon the points above quoted, as well as upon any others which you may deem to have a bearing upon the question of the construction of the Sutro Tunnel.

I also take the liberty, under the instructions of the commission, to append a series of questions having a bearing upon the portions of our duties not enumerated above, your answers to which will be important in making up our estimates of the probable cost of the proposed tunnel, and its value as an aid to deep mining on the Comstock lode.

Should your reply to the foregoing not be ready before the commission leave Virginia City, please forward it addressed to me at the Army Building, New York City. The earliest practicable answer will, however, oblige.

Very respectfully, your obedient servant,

H. G. WRIGHT,
Brevet Major General, Senior Officer of Commission.

To ————————
Superintendent of ———— *Mine.*

The following are the questions to which answers are asked:

1. Cost at various depths of sinking shafts, estimated by cubic foot removed, or by the running foot for a shaft of given dimensions.
2. The present cost of timbering the same, with increase, if any, with the depth.
3. The cost of drifting in the various rocks met with in your operations; estimated either by the cubic foot or by the running foot, specifying the dimensions of the cross section.
4. The cost of timbering the same.
5. The daily progress made in the shafts and drifts through the various rocks, the largest force that can be worked to advantage being employed.
6. The cost of ore, water, &c., from various depths.
7. The cost of pumping at your mine for twelve months; preferably for the year ending June 30, 1871.
8. Has the water in your mine increased or diminished with the depth, and in what proportion?
9. The cost per ton of ore for milling; and where the cost of transportation to the mill is included, the cost of the latter.
10. What is the present cost of the artificial ventilation of your mine, and how does it increase with the depth?
11. How long a time at the present progress of working will it require to exhaust all the profitable ore in the mine, above the 600-foot level?
12. How long between the 600 and 1,000-foot levels?
13. At what depth will the present machinery be available for hoisting the ore or clearing the mine from water?
14. What additional expense will be incurred, if any, per 1,000 feet of additional depth for the purpose above named, calculating from the 1,000-foot level?
15. What is the width of the lode and also of productive vein-matter at the various levels of your mine?
16. What has been the expense of prospecting the mine for the year passed?
17. How does the pay-ore compare at each level, from the surface downward?

[To the above letter, the superintendents of the principal mines answered, and their answers form Appendices C to I in the Commissioners' report. The following is the answer of the most distinguished of these superintendents, J. G. Fair (afterwards U. S. Senator).—J. A.]

APPENDIX F.

OFFICE HALE & NORCROSS'S SILVER-MINING COMPANY,
Virginia, October 3, 1871.

DEAR SIR: In reply to your printed circular, received last month, I will state to questions Nos. 1 and 2: The size of our main shaft is 6 feet wide and 18 feet long, divided into three compartments. The cost of sinking this shaft has been $23 25 per foot, and of timbering the same $16 50 per foot, and, from the limited quantity of material possible to be excavated from a piece of ground of those dimensions (necessarily employing the hoisting power only a small part of the time, and not continuously), the increase in cost of sinking the shaft has not been perceptible, particularly as water does not impede this work to so great an extent as when advancing downward near the surface.

Question No. 3. The average dimensions of our drifts and tunnels are 5 1/2 feet wide and 7 1/2 feet high. The average cost of running these drifts is $8 per foot.

Question No. 4. The cost of timbering these drifts is $2 per running foot.

Question No. 5. From 3 to 12 feet per day is the distance run in these drifts, according to hours worked and character of the material penetrated.

Question No. 6. The cost of hoisting ore from present station is 50 cents per ton, and has not greatly varied therefrom when extracted from the upper levels.

Question No. 7. For the year ending June 30, 1871, the cost of pumping water has been $2,320.

Question No. 8. The water to be pumped is less than when working near the surface; it is about one-sixth of the former volume.

Question No. 9. This company has paid from $9 to $12 per ton for miling its ore. (The mills pay their own transportation, which has been from 65 cents to $1 10 per ton.)

Question No. 10. As yet no increase in cost of ventilating the mine is noticed; the expense has averaged us $4 per day.

Question No. 11. About five years.

Question No. 12. About three years.

Question No. 13. To a depth of 2,500 feet this company has nearly completed the placing of ponderous machinery to aid in the prospecting of the mine at greater depths. We have no ropes of that length yet, but will have them made long before required. Our reels are adapted to such lengths, being flat-steel wire-ropes.

Question No. 14. To a depth of 500 feet below our present lowest level (called the 1.300-foot level) no particular augmentation of expense will be necessary. For a greater depth I eannot at preseut state.

Question No. 15. The width of our pay-vein was, at 100 feet in depth, 90 feet; 200 feet in depth, 80 feet; 300 feet in depth, 50 feet; 1,200 feet in depth, 45 feet; 1,300 feet in depth, 80 feet.

Question No. 16. Our prospecting expenses for the year have been $147,000.

Question No. 17. The pay-ore lessens in value as we descend. It then increases in value, and again lessens to a still greater extent.

Very respectfully, yours,

J. G. FAIR, *Superintendent*.

Mr. H. G. WRIGHT,
Army Building, New York.

[Appendices J, K, L, and M were documents furnished by Sutro. J is the report about a Dam on the Carson River.—J. A.]

APPENDIX K.

[2,185 feet of tunnel (including open cut;) eost $42,800 78; commeneing October 20, 1869; ending July 1, 1871.]

CHARACTER OF GROUND DEVELOPED.	Respective distances	Average cost of sup't, foreman, and labor per foot.	Total cost for superintendent, foreman, and labor.	Average cost for frame-timber per foot.	Total cost for frame-timber.	Average cost of iron, steel, tools, oils, and candles per foot.	Total cost of iron, steel, oils, tools, and candles.	Average cost of track-timber per foot.	Total cost of track-timber.	Average cost of track-iron per foot.	Total cost of track-iron.	Average cost of wood per foot.	Total cost of wood.	Average cost of charcoal per foot.	Total cost of charcoal.	Average cost of powder, fuse, and caps per foot.	Total cost of powder, &c.	Average cost per foot.	Total cost for completing 2,185 feet of tunnel.	Total number of days worked by miners alone.	Total length of calendar time.	Average feet of tunnel each day.
								Cts.		Cts.		Cts.		Cts.		Cts.						
Trachytic conglomerate..	750	$14 10	$10,574 00	.....	.....	$1 00+	$757 +	17.87	$134 +	22.31	$177 +	.....	.....	14	$105 +	5	$37 50	$15 70	$11,775 —	1,255	109	7 —
Trachyte.....	500	16 87	8,435 00	.....	.....	1 00+	504 +	17.87	89 +	22.31	111 +	.....	.....	14	70 —	40	200 —	18 82+	9,413 30	1,140	104	5
Trap dike.....	40	12 84	513 60	$1 48	$59 20	1 00+	40 48	17.87	7 15	22.31	8 92	72.11	$28 84	11.15	4 46	3	1 20	16 60	664 —	138	10	4
Red clay.....	70	16 55	1,158 50	1 48	103 60	1 00+	70 65	17.87	12 50	22.31	15 61	72.11	50 48	11.15	7 80	3	2 10	20 31	1,421 70	112	14	5
Blue clay.....	100	18 36	1,835 00	1 48	148 00	1 00+	100 94	17.87	17 87	22.31	22 31	72.11	72 11	11.15	11 15	3	3 00	22 12+	2,212 25	266	28	3.6
Porphyry, timbered	342	18 44	6,306 48	1 48	506 16	1 00+	345 25	17.87	61 12	22.31	76 30	72.11	246 63	20	68 40	50	171 —	22 76	7,783 92	764	138	2.5
Porphyry, hard.....	383	19 05	7,296 15	.....	.....	1 00+	386 30	17.87	68 52	22.31	85 45	72.11	276 18	20	76 60	63.30	242 44	23 02	8,431 17	773	143	2.7
Extra, for open cut.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,099 44	.....	.....	.....
Total.....	2,185	.....	36,118 73	.....	816 96	.....	2,204 62	.....	390 16	.....	496 59	.....	674 24	.....	343 41	.....	657 24	.....	42,800 78	4,448	546	4+.15

Respectfully, The Honorable THE SUTRO TUNNEL COMMISSION.

APPENDIX L.

The following estimate is based upon four miles or 21,120 running feet of the Sutro Tunnel complete.

The large timbers are 12 inches square, and are set 5 feet apart from center to center.

The lagging are 3 inches thick, 6 inches wide, and 5 feet long, containing lumber as follows, to wit:

	Feet.
4,225 bents, containing 840 feet each	3,549,000
4,225 bents lagged, containing 570 feet each	2,407,680
8,450 supports for track, containing 36 feet each	304,200
84,480 lineal feet, or 16 miles, track timber, 6 by 6	253,440
Total feet	6,514,320
At $40 per M	$260,572 80
4,225 bents properly in place, at $25 each	105,625 00
Total cost	366,197 80
Cost per linear foot	$17,33.88

Respectfully, THE HON. THE SUTRO TUNNEL COMMISSIONERS.

APPENDIX M.

SAN FRANCISCO, CALIFORNIA, *November* 23, 1871.

MY DEAR SIR: It was my intention to avail myself of the opportunity to present some additional statements in regard to the Sutro Tunnel, but my time has been so very mueh oeeupied since my return to California that it has been almost impossible for me to find the necessary leisure.

I think now that I shall have to reply to the statements of some of the superintendents of the mines on the Comstock lode after your report is published, so I may aseertain what position they take; my reply, of course, ean then form no part of your report.

You are, no doubt, well aware of the continued and persistent prevarications of the men who oppose the great work in which I am engaged; and since I have given a complete history of the tunnel enterprise and the motives for that opposition in a speeeh delivered by me at Virginia City, Nevada, some time ago, I inclose a copy of the same, and would respeetfully ask to have the same embodied in the appendix to your report.

That a work of the magnitude of the Sutro Tunnel, whieh will radieally change the mode of working the mines, should find mueh loeal opposition, cannot be wondered at. It is the old fight of stage-coaches against railroads, and such fights will always take plaee as long as improvements are comtemplated.

I forwarded to you some days ago estimates of eost of large dam aeross Cañon River, with other statistieal information about the water-power on the river, whieh I hope has duly reached you.

I am, dear sir, your most obedient servant,

ADOLPH SUTRO.

Major General H. G. WRIGHT,
Senior Officer Sutro Tunnel Commissioners.

[Then follows the speech of Adolph Sutro, delivered at Virgnia City, Nevada, in 1869, and which I inserted in my Chapter V, page 6.—J.A.]

SUTRO TUNNEL.

HEARING

BY THE

COMMITTEE ON MINES AND MINING

OF THE

HOUSE OF REPRESENTATIVES.

The full Report of the Sutro Tunnel Commissioners being referred to the Committee on Mines and Mining, which was to report on a Bill to aid the Sutro Tunnel, witnesses (including the COMMISSIONERS themselves), were examined before the Committee by Adolph Sutro and Mr. Sunderland. The examination of the different witnesses began February 12th, 1872, and lasted up to the 29th of March. Its report forms a volume of 810 pages, which was printed by order of the United States Government, together with the discussion in committee and the arguments of Mr. Rice, Mr. Sunderland, and of Adolph Sutro, which were as follows :—

THE DISCUSSION.

WASHINGTON, *April* 15, 1872.

The Committee on Mines and Mining of the United States House of Representatives met at 7½ o'clock.

The committee was convened for the purpose of hearing arguments *pro* and *con.* regarding the proposed loan by the Government in the construction of the Sutro Tunnel.

The committee was called to order by the chairman, Hon. HENRY WALDRON. The chairman then said :

Mr. Sutro, I believe you are entitled to the opening.

Mr. RICE. Mr. Chairman and gentlemen of the committee, under our practice in New England the opening statement is always made at the commencement of the trial or hearing of a cause.

The evidence on behalf of the party holding the affirmative of the issue is then introduced. When such evidence has been concluded, the party defendant presents his case. Then the closing arguments are submitted, first by the defendant and then the plaintiff. I do not know what the rule is here.

I did design to make some very brief opening remarks, but have concluded, as Mr. Sutro is so very familiar with this matter, and inasmuch as we understand Mr. Sunderland has some motion to submit, to waive any opening, and give the evening to Mr. Sunderland. I believe it was understood that he was to have three hours. Whether——

Mr. SHOBER. Not to exceed that.

Mr. RICE. Not to exceed that. You are right. Whether either party will want as much as that I am not aware, but we are willing to waive the opening.

Mr. SUNDERLAND. Mr. Chairman, I had not designed opening the case at all for the remonstrants against the tunnel this evening, and so announced to Mr. Sutro. As we were each to be allowed three hours by the decision of the committee, I told him that after the opening this evening, which he informed me would be short, I would content myself with one hour on Wednesday evening, instead of three. As there is to be no opening this evening, I have no objection to making the motions which I contemplated making, and to which I called the attention of the sub-committee.

M. SUTRO. Do we understand you to say, Mr. Sunderland, that you do not propose to make any argument to night?

Mr. SUNDERLAND. That is what I said.

Mr. SUTRO. We would not propose to occupy more than half an hour in the opening, if we were to make an opening argument at all ; and I do not see how we are to get three hours, if Mr. Sunderland is going to occupy a portion of the next evening.

Mr. SUNDERLAND. The first motion I have to make is, to exclude from the record of testimony what purport to be extracts from letters from the superintendents of the Ophir mine to the company's office in San Francisco.

It will not be disputed that I objected to them, and that they were admitted by the sub-committee against my protest. After the examination of the three commissioners, it was determined by the sub-committee to hear no testimony unless it was under oath. At the last meeting of that committee Mr. Sutro presented these papers here, which purport to be extracts from letters, running through from November 8, 1867, until February 22, 1872. The foundation, or rather the object, of the rule adopted by the sub-committee, I suppose, was first to get the truth from the statement of the witnesses, and the privilege was extended to the other side to cross-examine the witnesses. There is another rule in law, well known to every lawyer, which would exclude them, and that is, that no part of a document—an original document—can be offered in evidence unless the whole of it is offered ; and for this reason, that the extract that you may read from the letter or paper may not of itself explain itself. Therefore, when any part of a paper of any kind is offered in evidence, the whole must be submitted to the court.

Now, these are extracts, in some cases, of a single line. What else was there in that letter? The papers do not purport to be complete copies of letters, but simply extracts, and it may be that in the balance of the letters from which these extracts are made there may be statements explanatory of what is contained in the extracts here presented.

Again, it is objectionable, on the ground that the letters are traced to the office of the company in San Francisco, and no effort has been made to procure these original letters. There is another rule perfectly well settled, that in all cases, before you can offer evidence of the contents of a letter or paper, you must take such steps to procure the original as may be in your power.

Now, there is no question, I suppose, but that, at the request of the superintendent, who makes an affidavit here, or at the request of the Sutro Tunnel Company, these original letters could have been had, and that they would have been sent here for use before this committee.

Again, there is another objection, which of itself must be fatal to the introduction of these extracts, and which is, that they do not purport to be copies of letters, but copies of copies, which no court of law ever admitted. They purport to be copies, or extracts of copies, of letters that remain in the office of the superintendent in the City of Virginia. Why were not these copies sent, if the originals could not be procured? And what foundation is there for the introduction even of copies? Certainly none recognized by law, or any rules of evidence; because, when you offer to prove the contents of a paper, you first show your inability to procure the original, and then you prove it by the testimony, and subject to cross-examination in open court the witness who has compared the original with the copy. But copies of copies never were introduced anywhere. Mr. Deidesheimer and Mr. Ford, the first superintendent and the second clerk of the Ophir company, at the mine, certify that "the accompanying statements and figures are materially correct, as shown by the books in this office; and also that the extracts inclosed embrace all that is mentioned in letters of the superintendents of the Ophir Silver Mining Company to the office of the company in San Francisco concerning pumps and water, within the dates therein given. Subscribed and sworn on the 14th of March."

That is the only foundation for the introduction of these documents, and certainly, after the determination of the sub-committee to hear no testimony except that under oath, and where the party opposed to the side introducing the witness could have an opportunity to cross-examine the witness, the paper here should have been excluded from the committee. I therefore appeal from the decision of the sub-committee to the committee, and ask that these papers shall be ruled out.

If you want me to make the other motion now, I will do so.

Mr. Rice. Which other motion?

Mr. Sunderland. I refer to the motion regarding the decision of the committee in reference to the stock of the Sutro Tunnel Company. Perhaps, though, it would be best to dispose of this first.

Mr. Rice. One word preliminary here, Mr. Chairman and gentlemen.

The Chairman. Was it not the understanding at the last meeting that Mr. Sunderland might incorporate in his remarks any objections he had to the admission of testimony, and such would be passed upon with the other matters?

Mr. Rice. I was about to remark that that was my understanding. As I understood it, Mr. Sunderland would submit his motion, and comment thereon as he should proceed in his argument, and that during our argument we would reply. And what I rose to inquire was, whether Mr Sunderland intends what he has said to be considered as part of his argument, and whether he is going on with it to-night or not.

Mr. Sunderland. Mr. Chairman, it was only to save time, as the gentlemen on the other side have declined to make any opening at all, which seems to me rather a strange proceeding.

Mr. Rice. We do not object, but said we wanted it. We leave it entirely to the committee. If they require an opening, we will make it.

Mr. Sunderland. I do not know what I am to answer until I know what is said. Where a party appears as plaintiff, or where a party appears before a committee, and asks something positively to be done by that committee, such as recommending an appropriation of money by Congress, it would seem to me to be very proper for that party to assign some reason for the appropriation; and if no reason is assigned, why the inference may be that there is no reason that can be assigned. I certainly do not know what to answer, until some argument or some reason is urged upon this committee why this appropriation should be made.

Mr. Rice. If there is any disagreement between Mr. Sunderland and myself, it is owing to the different methods of practice in various parts of the country. As I said before, in my own country—in New England, Massachusetts, and Maine—the party holding the affirmative always opens the case in the beginning. That I understood Mr. Sutro to do when we commenced his case. Then the evidence is put in. Then the defendant makes his opening, and puts in his evidence. Then the defendant makes his closing argument, and then the plaintiff his. That is our universal practice; but the practice differs in different parts of the country. Now, if it is insisted that we must put in an opening argument here, or if desired even, why I have no objection to going on a short time and state the grounds, with the position we occupy, although it was stated fully in a long speech by Mr. Sutro at the beginning of the case, he taking up the whole meeting. Therefore I suppose there is no sort of doubt as to what we ask here, and how we propose to get it. And we are not here really like parties in court, may it please the committee, by any means. The Government is the principal party. To be sure there are other parties interested. On the one side are the parties which I represent in part, in connection with Mr. Sutro; and on the other the Bank of California, or the owners of these mines, whoever they may be, or anybody in opposition to it: because all are invited to come in here before this tribunal, representing the Government, which is the real party in interest. It is for the country to decide through its representatives in Congress whether this petition will be granted, which proposes to aid in a great work, which we claim will be important in developing these great interests of the country. Now, I am perfectly willing to go on here for half an hour in the opening of this case. I would not go on longer, because I prefer that Mr. Sutro, as he is so much more competent, and understands this matter so much better than I, should have all the time he desires in the argument. If that should be determined, why then what little time I may need I will take up, and then Mr. Sunderland can submit his argument; and after that, at the next evening, Mr. Sutro can make his closing argument.

The Chairman. My understanding of the order we agreed upon at the last meeting of the committee is, that as Mr. Sutro, or the gentleman who represented him, held the affirmative of the proposition here, he should properly open and state the reasons on which he based this application for aid, to be followed by Mr. Sunderland, each gentleman or either side to be allowed three hours. (To General Negley.) Is that your understanding?

General Negley. Yes, sir.

Mr. Shober. That is the practice in our country.

Mr. Rice. I am aware that is the practice.

Mr. Sutro. Two evenings will be divided up in that way.

The Chairman. Certainly.

Mr. Sunderland. On the division of time, Mr. Chairman, I suppose that, under the order of the committee, neither party can claim of one evening more than an hour and a half.

The Chairman. I do not know. If Mr. Rice occupies an hour this evening and you two or three hours, he would be entitled to two hours the next evening.

Mr. Sunderland. But suppose I do not desire to make any argument this evening, but limit myself to one hour on Wednesday evening: I want to know whether I will be permitted to do that.

The Chairman. That may involve the holding of another session.

Mr. Sunderland. Not at all.

Mr. Shober. Mr. Sunderland means, if he does not see proper to reply this evening, or commences his argument this evening, that he will only take an hour on Wednesday evening. Suppose Mr. Rice occupies an hour and a half this evening, he will be entitled to the hour and a half of his time on Wednesday evening; or if he occupies a half an hour this evening, he will be entitled to two hours and a half on Wednesday evening.

Mr. Rice. That will necessitate rather a long session.

Mr. Young. I understood each side was to have three hours if they desired, and that we were to have two sessions.

The Chairman. Yes, sir; but nothing was said——

Mr. Sutro. If you take a portion of the second evening, there would not be three hours left. If Mr. Rice takes half an hour to-night——

The Chairman. It will involve a long session. That will be all.

Mr. Sunderland. I think I could make an argument more satisfactory to myself, and if it makes any impression at all upon the committee it would be better calculated to make that impression by my submitting all I have to say in one evening, instead of

spinning it out into two or three. It would certainly be more satisfactory to me to be allowed to submit what few remarks I intend to make at one session of the committee.

Mr. YOUNG. I presume the action of the committee led Mr. Sunderland to suppose that he would have his time on the second evening, the first three hours being taken up by the affirmative.

Mr. SHOBER. No, that was not the understanding. The understanding was that each side was to have three hours.

Mr. SUNDERLAND. That is very true; but when it was determined by the committee that Mr. Sutro should open, I supposed there would be a real opening of the case, and not have the argument reserved for the reply—the final argument. I believe that is not very customary.

Mr. SHOBER. They propose to open the case to-night. That was the understanding just now. The question was, whether you would reply to-night, or commence your reply Wednesday night.

Mr. KENDALL. Mr. Chairman, would it be too long a session on Wednesday night to sit, say three hours or three hours and a half? It seems to me that would not be too long.

Mr. SHOBER. We have been in the habit of sitting that long in taking the testimony.

Mr. SUNDERLAND. I shall try not to weary the committee by consumption of time, and I am willing to limit myself to an hour.

The CHAIRMAN. Then we can close the hearing next Wednesday evening, probably.

Mr. RICE. Mr. Chairman and gentlemen, inasmuch as this motion has been put in, I will submit my answer to-night.

Mr. SUNDERLAND. Do you understand this other motion to be made also, that you may speak upon it as well, or shall I make it now in form?

Mr. RICE. Put in the motion now.

Mr. SUNDERLAND. I will write them out and submit them to you.

Mr. RICE. It is in regard to what?

Mr. SUNDERLAND. This matter of General Foster.

Mr. Chairman, I proposed to prove by General Foster, at his last examination, that the Sutro Tunnel Company was a corporation organized in San Francisco, in the State of California, with a capital stock of $12 000.000, of full paid or unassessable stock. That up to the 19th day of August last there had been issued by the company over $7.000.000 out of $12.000.000. At that time there was in the company only $31.000. The balance of the stock, which was less than $5.000.000, had been set apart by the company for the construction of the tunnel, which is made an exhibit to the commissioners' report, and that on the first day of July last there had been expended only $42.800, making the cash proceeds, so far as any body knows, of this $7.000.000 of stock, $73.800. That proof was not received by the sub-committee. The object of the proof was to show the character of the Sutro Tunnel Company, the objects of the incorporators and manipulators of that corporation; to show that it is, in fact, a stock-jobbing operation from the beginning to the end, and that there is no substantial interest in it; that after all the franchises granted by the Government to Sutro and his associates, and after all the talk of work that has been done upon that tunnel for the last number of years, up to July last there have been spent only $42.800; and that this $7.000.000 of stock that has been issued, and which the committee will please remember was unassessable and full paid and put into the hands of parties who are interested in the origin of this scheme, is either in their hands for speculative purposes, to be enriched by this appropriation of three millions by Congress, or it is in their hands for the still worse purpose of manufacturing public opinion in favor of this appropriation.

Now, I think it very important to have that testimony in, because, if these men originating this tunnel project are not spending their own money—if they do not intend to spend their own money; if it is only for speculative purposes—the company cannot commend itself to the Government and to Congress as a proper object of the receipt of this appropriation. If they have confidence in the success of the tunnel as a business enterprise—and it is a private enterprise, and it cannot properly be called anything else than a private enterprise—why do not they put their own money in; why don't they run the tunnel; why is it that they ask Congress to give them $3.000.000 to enable them to send their stock up to par, and realize these $7.000.000 that they have in their pockets to-day. It seems to me that that testimony ought to have been admitted, and it is very pertinent, when this same corporation is applying for Government assistance.

MR. RICE'S ARGUMENT,

APRIL 15, 1872.

Mr. CHAIRMAN AND GENTLEMEN: I will submit a few remarks first in reply to the motions put in by Mr. Sunderland. In the first place, we say the introduction of the testimony which has been printed has already been passed upon by a competent tribunal, the sub-committee that was appointed to take this testimony; and were it not so, then we have to say that there is no rule binding this committtee, acting as they are for the Government, coming here independent of both sides of this case, as represented by counsel here, and sitting here to adjudicate upon a matter of deep interest to the Government. They are not bound by any specific rules, and there are no rules binding any committee. They each make their own rules. Sometimes, in the Committee on the Judiciary, they are quite formal, and will hold counsel up to strict rules of evidence, but in no other committee that I have ever known of—and I happened to be, while I was a member of the House of Representatives, on two investigating committees, and took and heard evidence in other committees—were the strict technical rules of judicial procedure asserted or relied upon. The committee always opened the doors just as widely as they saw fit to. Now, in regard to the question of admission of testimony: In the first place—and it will be rather stale and uninteresting to these gentlemen of the sub-committee, because we have gone over all this, Mr. Chairman—this is no new question to these gentlemen, because it was argued fully and at length when the evidence was offered, and the sub-committee decided it should be admitted. What I was going on to say, or repeat, rather, what was said before the sub-committee, was, that this testimony was put in to rebut certain statements that were reported by the commissioners who were appointed by the President to examine this subject, and what they termed as official statements of these gentlemen; and its bearing was upon a very important branch of this subject and of these mining operations. That was and is, whether it would be a saving on the whole, on the operations of mining, to have this tunnel completed and used for the purpose of taking out ore, and especially for drainage; whether the statements which the superintendents of these mines have made to these gentlemen, and upon which they based the figures and statements which they have made and submitted—whether that basis had a true and correct foundation in fact? And the only way for us to meet that was to get from the very best source we could find—the books of one of these mining companies—the fact of the daily operations by which the water was, day after day, taken from these mines; and showing what we claimed from the beginning, and what these mine owners conceded in the beginning, that the water which was in the mines was the great difficulty in the way of the effective and profitable mining of the Comstock lode. And I do not wonder that Mr. Sunderland comes here and objects to the introduction of this fact, because it does contradict this Mr. H. H. Day, out of his own mouth, by his own daily letters, and by his own daily acts. It convicts him of most outrageous perversion of facts: for in his report, which is in the appendix to the commissioners' report, he speaks of that country as a dry country; represents that the proposed tunnel will be valueless for purposes of drainage. When you come to read the facts under his own hand, as written from day to day, before this question was pending, when there was no earthly object for him to misstate or misrepresent the facts, you will find that the very work which he reported upon was constantly flooded with water, and that to keep the mine free from water was the prolific cause of cost, delay, and ruin. This, I say, does damn the testimony of this Mr. Day; and, in destroying his testimony, we claim that it invalidates the testimony of all these other interested witnesses.

Now, why did we get at these facts? Because, at last, these gentlemen, who have controlled these mines, have fallen out

among themselves. People do fall out sometimes. I am not going to say that these are a particular class of gentlemen who fall out, and hope that honest men may get their dues ; but they have fallen out, and this Ophir mine happens to have fallen into other hands—into hands where they were perfectly willing to give us all the facts which their books show, and which these commissioners were not able to get out there ; or, if they were able to get them, it is a fact that they state that they did not get them ; but simply let these interested gentlemen, who are making their thousands and tens of thousands of dollars out of these mining operations, and out of the speculations growing out of them—let them sit down secretly in their offices and make out these statements, upon which they base their report, which we show by these entries, to a very great extent, are erroneous.

Now, I say again that, this whole matter having been passed upon, I am somewhat surprised that it should have been reopened ; and I can only account for it from the fact that these facts, which we put in here, are so damaging to the position assumed by these gentlemen, who have now seen fit to oppose this grant for the purposes of this great work.

Now, so far as the other question is concerned, there was a proposition made, or an offer made by General Foster during this examination, to put in certain facts obtained, as he said, from the books of the Sutro Tunnel Company. That was not passed to any one of the committee. I proposed to take it, and the paper was immediately withdrawn from my hands. I believe it is a rule of practice that the opposite party shall always have the right to inspect a paper before it goes into a case. We had not that opportunity, and the committee having determined that new matter should not go into the case, and especially from General Foster, who had been here night after night as a Government witness, and whose testimony had been fully closed after a lengthy and thorough cross-examination by the counsel, the committee very properly arrived at the conclusion that they would not receive any new matter from General Foster, and upon that conclusion this piece of testimony was ruled out, although the committee will bear me out in saying that we withdrew all objection, and gave our free permission that the paper might go in ; and we have desired it should be put in, for we have nothing to conceal in this whole matter. We want nothing but the truth, the whole truth, and that we have sought from the beginning. I will dismiss, with these few remarks, this part of the subject.

And now, gentlemen, we appear before you here, as has been said, in support of a bill that is before your committee, by which it is asked that the Government may aid the Sutro Tunnel Company in the completion of their work. It is a well-guarded bill, or, if it is not, it is for you to amend as you see fit, if you decide that this aid should be granted.

Mr. Sutro some years ago went upon this famous Comstock lode. All men of scientific attainments like him, all practical miners like him, all men of a speculative turn perhaps—and he may have been one of that kind—went to that famous lode, hoping to make money undoubtedly, and there, having understood somewhat, or quite largely, the proper methods of mining, he at once discovered, from what he had seen and read in the old countries, that the mining operations there were not of the most economical and the most effective character. And therefore he proposed—he started the idea of taking up that which was done in all the old mining countries—reaching the depths of this lode down two thousand feet or more, below the outcroppings on the mountain side, so that the prospecting and the mining might be carried on with more efficiency and with less expense. The proposition was met most heartily by those gentlemen owning the mines. And, in furtherance of the scheme, Mr. Sutro obtained an act of incorporation from the Legislature of the State of Nevada, by an act approved 4th February, 1865, incorporating this Sutro Tunnel Company. And, then, when he opened his plan to the principal mine owners on the lode, they, feeling and knowing the necessity for such an operation, for such an auxiliary to their mining operations, knowing the vast expense they were at daily in freeing their mines from water, entered into contracts, which will be found in this book of Mr. Sutro's, called "The Sutro Tunnel," and which you will be familiar with, because you will read it—I shall not have time to read these contracts—by which they conceded certain things, and agreed to do certain things, on condition that this adit or tunnel should be completed. Among other things, they agreed to pay him for all ores taken out $2 per ton, and other sums for transportation of ores, timber, men, &c. This was entered into in good faith at the time undoubtedly ; but for some reason or other, very soon after, these gentlemen changed their minds in regard to it. Our theory of that action is, that they saw that there was money in this, as Mr. Sutro saw there was money in it—money for himself and money for the mine owners. But these gentlemen who had made their money and were making money from these mines, which were the property of the Government and/not their property, except as they took them up as squatters, having no interest in them, having no right in them any more than any other citizen, except as a squatter right, they entered into these contracts of mutual advantage to both parties; and, as I said, our theory of the sudden conversion that came over these men is, that they were, notwithstanding they were making fortunes out of the mines, which were successfully opened—they felt they could take that which Mr. Sutro had discovered—the proper method of reaching these mines by this tunnel—and, by wearing him out, they could build it themselves. That, I think, the case will show was the real reason why they changed their tactics, and why they have been making war upon him from that time to this.

When they started him on, and bade him God speed in the accomplishment of certain things, they felt the necessity of this great work. They thought him competent to attend to it, and they believed that was the best way to do it. But as soon as he moved in it, and they began to see the advantages of it, and what might be the advantages to him, they, with an avarice, not perhaps peculiar to them, but very common in the world, sought to oust him of the benefits of what he had done, to deprive him of his rights, and make them subservient to their own interests.

Well, then, in following this case along, we find that Mr. Sutro came to Congress and obtained the act of Congress, approved July 25, 1866, and under that act the rights under these contracts were confirmed to him by Congress ; and here let me again say, that at this time these squatters had no earthly interest in these mines, save what they got under local mining laws. They were absolutely the property of the United States, and the Government of the United States had full right of authority to do just what it pleased with them. And when this case was presented, and the Congress of the United States saw and were convinced that this tunnel would be of such an immense advantage, and that the whole State of Nevada, and all these mine owners, and all the operative miners were asking for it, believing it to be the great instrumentality by which that vast money chest of the nation was to be thrown open, and its rich treasures thrown out broadcast over the world, to enrich it, and to change the values of property and all that sort of thing—I say they came here, and Congress did not hesitate to bestow these privileges upon Mr. Sutro, which are contained in this act.

The 1st section of this act provided :

"*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That for the purpose of the construction of a deep draining and exploring tunnel to and beyond the Comstock lode, so called, in the State of Nevada, the right of way is hereby granted to A. Sutro, his heirs and assigns, to run, construct, and excavate a mining, draining, and exploring tunnel ; also to sink mining, working, or air shafts along the line or course of said tunnel, and connecting with the same at any points which may hereafter be selected by the grantee herein, his heirs or assigns."

Then it states what the size of the tunnel shall be.

Section 2, provides :

"SEC. 2. *And be it further enacted,* That the right is hereby granted to A. Sutro, his heirs and assigns, to purchase, at one dollar and twenty-five cents per acre, a sufficient amount of public land near the mouth of said tunnel for the use of the same, not exceeding two sections, and such land shall not be mineral land or in the *bona fide* possession of other persons who claim under any law of Congress at the time of the passage of this act ; that upon filing a plat of said land the Secretary of the Interior shall withdraw the same from sale, and upon payment for the same a patent shall issue."

All that has been performed. All the conditions have been performed on the part of Mr. Sutro, and this tract of land passed to the Sutro Tunnel Company ; and that is very important, because, lying at the mouth of this tunnel, and between there and Carson river, is a beautiful plateau, well fitted for the important purposes of reduction and concentration of ores, and all the other important operations consequent upon opening of the tunnel.

Section 2 further provides :

"And the said A. Sutro, his heirs and assigns, are hereby granted the right to purchase, at five dollars per acre, such mineral veins and lodes within two thousand feet, on each side of said tunnel, as shall be cut, discovered, or developed, by running and constructing the same, through its entire extent, with all the dips, spurs, and angles of said lodes, subject, however, to the provisions of this act, and to such legislation as Congress may hereafter provide : *Provided,* That the Comstock lode, with its dips, spurs, and angles, is excepted from this grant ; and all other lodes, with their dips, spurs, and angles, located within the said two thousand feet, and which are, or may be, at the passage of this act, in the actual *bona fide* possession of other persons, are hereby excepted from such grant."

By this *proviso* it will be observed that the Comstock lode, and all other lodes, or parts of lodes, in the actual possession of other persons, are excepted from this part of the grant to Mr. Sutro :

"And the lodes herein excepted, other than the Comstock lode, shall be withheld from sale by the United States ; and if such lodes shall be abandoned or not worked, possessed, and held in conformity to existing mining rules, or such regulations as have been, or may be, prescribed by the Legislature of Nevada, they shall become subject to such right of purchase by the grantee herein, his heirs or assigns."

Then the third section is still more important in its bearing upon the question before the committee, and to which I more specially desire to direct your attention. It reads as follows :

"SEC. 3. *And be it further enacted,* That all persons, companies, or corporations, owning claims or mines on said Comstock lode, or any other lode, drained benefitted, or developed by said tunnel, shall hold their claims subject to the condition which shall be expressed in any grant they may hereafter obtain from the United States ; that they shall contribute and pay to the owners of said tunnel the same rate of charges for drainage or other benefits derived from said tunnel or its branches as have been or may hereafter be named in agreements between such owners and the companies representing a majority of the estimated value of said Comstock lode at the time of the passage of this act."

The important provision in that section is, that all patents which should thereafter issue to any of these claimants of the mines—persons who obtain these possessory rights—that in such patents should be inserted this provision, making the grant subject to these contracts. That is very important to the Government, provided this aid is granted, because it will insure a revenue which will amply secure the Government for the advances it will make. This act, you will observe, was approved July 25, 1866, and it will be found in the Statutes at Large, vol. 14, page 242.

Then the next step in this proceeding was in the 40th Congress. A bill was introduced and referred to the Committee on Mines and Mining, of which Mr. Higby, of California, was then chairman, which asked $5.000.000 for the purpose of making this great work. That was fully considered by the committee, and this very able report was made, and signed by Delos R. Ashley, Morton C. Hunter, James M. Ashley, Orange Ferris, John F. Driggs, Rufus Malory. (See House Report No. 50, 2d Sess. 40th Congress.)

That bill was reported, as I understand, unanimously, or rather no member of the committee submitted a minority report. The concluding paragraph of the report is in these words :

"If we take into consideration the magnitude of this undertaking, the large yield of bullion which will be directly secured thereby, the great influence by its successful completion upon all our mining districts, the stimulus it will give to mining generally, the positive proof it will furnish of our immense mineral wealth, and consider the importance of attaining these results, in view of our large national debt, ordinary wisdom and foresight should command that the aid asked for the construction of this important work, or a much larger sum if it were necessary, should be granted, even were no security whatever offered for its repayment."

Action upon the bill was prevented by the intervention of the impeachment of the President of the United States. I believe that was the only reason it was not acted upon at that session. It could not be reached. It was impossible to reach any bill, because everything was suspended until that matter of impeachment was finally disposed of.

The CHAIRMAN. What was proposed in that bill ?

Mr. RICE. That bill proposed to give $5.000.000.

Mr. YOUNG. Absolutely ?

Mr. SUTRO. No, sir ; as a loan.

Mr. RICE. Precisely, as in this bill. I thought I had the bill here, but I find I have not.

After this bill was reported, then the tactics of these gentlemen, who had become suddenly the opponents of this measure, took a new turn. In the Forty-first Congress they appeared here and introduced a bill which proposed substantially to repeal the third section of this act, as I have stated to you. And over that was a long contest and a long hearing before the Committee on Mines and Mining.

And after a full hearing of the case upon its merits, in all its branches, in all its ramifications, and with able counsel, coming from San Francisco, to present the arguments for the Bank of California, or the persons owning these mines, or both together—it makes no difference—they came here and demanded of Congress that they should abrogate the rights which Mr. Sutro had obtained by this act of Congress, and relieve them, in fact, from the agreements which they had voluntarily entered into for the completion of this tunnel, and to relieve them from the obligations which they had undertaken in consideration of his performing these acts. After a full hearing, as I said before, the committee asked to be discharged from the further consideration of the bill. Mr. Sargent submitted a minority report, claiming that the construction of the law should not be left in that way, but that they should substantially explain away the provisions of that third section of the act, so that this royalty could not be collected in favor of the Sutro Tunnel Company. The argument was very able on both sides, and after a full hearing of the case the bill was laid upon the table by a vote of 124 to 42. That was the end of that operation. In that great battle between Mr. Sutro, who appeared single-handed and alone, and the Bank of California, Mr. Sutro's rights were made so patent and so plain, and the importance of this work was so thoroughly demonstrated, that by that most decisive vote, after a most able and lengthy argument, the whole thing was set at rest. And then in this Congress, at the March term, a law was passed to have this commission sent out, to examine this question and report. This all shows the constant care and the constant interest of this Government in this great enterprise. This commission went out there, and they made their report. You have all read it. And from the fact that they based their report somewhat, and to a very large extent, upon the reports of the superintendents of these mines, who are antagonistic to this measure, it was upon our motion that these commissioners were brought in before the committee to explain precisely how and in what manner they obtained the information, and to get more fully and more clearly at their views upon this question. They came before the committee, and the sub-committee has heard them, and their testimony is included in this volume, throwing very great light upon the questions left in doubt, and still more light have we obtained through this examination : and we are very much indebted to Mr. Sunderland for the fact that he insisted upon going beyond what we asked, and beyond what the committee had anticipated, and asked to have other testimony brought in. Two of these superintendents came here voluntarily from the other side of the mountains to give their voluntary testimony in behalf of their employers. They were very gentlemanly and well-appearing men, and I have nothing to say in regard to them, other than this, that they disagreed with all other gentlemen as to the value of this tunnel, as to its practical operation, and as to the value of the mines, and as to what could be accomplished by it and through it ; and Mr. Requa also expressed the opinion, very clearly, that he did not believe that this lode would be found to be ore-bearing very much farther down ; in which view even Mr. Sunderland disagreed with him, for he admitted that it was a true fissure vein, extending downwards indefinitely ; and I believe everybody else believes the same. He is one of those practical men who evidently only believes in what he sees, and nothing else. I was about to say that we got most valuable testimony from Mr. Raymond (1), the accomplished Government Commissioner of Mines and Mining, with whom the sub-committee, who heard him, must have been exceedingly interested, from his clear statements in regard to this whole matter. It was a great pleasure, I have no doubt, to the committee, as it was to me, to listen to a thoroughly scientific mining engineer upon a question of this magnitude and of this very great interest. And hardly less interesting was the testimony of Mr. Luckhardt, who came here at our solicitation, from the other side of the mountains, too. You know very well how he appeared. You know how cautious he was in the opinions he gave. You know what opportunities he had had for understanding this whole thing. And you understood from him what unusual opportunities he had for studying every condition and every circumstance connected with this wonderful Comstock lode. He was there five years in the employ of men who sent him there, as their confidential agent, to report upon all the mines. The superintendent who has charge of a mine, to be sure, can make an accurate and positive report in regard to his own mine ; but this gentleman went from one mine to the other, and he had access to them all. The Bank of California sent him wherever he desired to go or they desired him to go in these mines ; and, therefore, he studied it with the eye of a scientific as well as a practical engineer, and he knew all about the matter.

Now, we claim, gentlemen, that with these facts, there should not be any question about what the Government should do, and we claim that it will only be doing what it has been doing in every other branch of public interest in this country. Why, from the very beginning of the Government down to the present time, we have been fostering and sustaining almost every branch of industry, more or less. And especially so where it only requires the credit of the Government to help along in these great enter-

(1) Mr. Raymond, now of the *Engineering and Mining Journal* of New York. — J. A.

prises. We claim this as one of that class of enterprises where it requires such a vast outlay of money as to render it beyond the means of private individuals to carry it forward to completion ; and, therefore, when it is of that commanding magnitude, like the great Pacific railroads, or like the great question of commerce, or like almost any other of the great questions, where the amount of money to be expended is beyond private means, the Government shall come in to assist in the development and fostering of these great interests. We did it all along in the early days of the Republic, during Democratic administrations and during Whig administrations. We had the great fishing interests of the country sustained by bounties upon fish. There was a great aquarrel over it, and at last it was yielded. Our fishermen got to that point where they could sustain themselves, and the fishing bounties were given up, probably very much to the detriment of the country, because we ceased to raise up sailors who are to make our seamen to navigate our ships when brought in deadly conflict with the great powers. It is perfectly analogous to the aid the Government extended to the Pacific railroad. In a very much less degree, to be sure, but still, if there was any justification for these great works, and we claim there was justification for them, and there was necessity for them, and the Government has done itself great credit and great honor, and has thus wonderfully developed the growth of the country, which has astonished the whole world, and has made us to stand aloft among the nations of the earth ; I say it is analogous to the aid which has been given to these great enterprises, for this mineral interest of the country is second to none, as Professor Raymond said, unless it be the agricultural interest of the country. And it is for us to unlock this money chest of the nation, as President Grant said, and take out this wonderful deposit, more wonderful than any in the world ; and as these scientific gentlemen testified, this Comstock lode is of more value and richer than any other similar deposit in the world, and we propose to strike into the bowels of the earth 2.000 feet down, and to take out from that mountain its wonderful resources, $15.000.000 a year—some say $30.000.000 a year—to be doubled, tripled, and quadrupled, we say, when this tunnel shall be completed. Why, it seems to me, gentleman, that it does not require an argument. It does not require any evidence to show that this tunnel must be of the very greatest benefit in developing these mines, because it is a self-evident fact. It is evident to my friend from Pennsylvania, who knows something about the mining interest of his own State—that wonderful State of Pennsylvania, so rich in her mineral possessions that, if you strike into a vast mine where you can mine upwards and downwards, forming a new base for your operations, you can reach very much greater depths and have very much greater returns and very much less expense than you can by any other means. We claim that this will most thoroughly ventilate these mines, and everybody understands the importance of perfect ventilation in these operations—every man who ever went into a mine understands the necessity of it—and nobody can doubt that by these means you will get that ventilation. Nobody doubts, for all concede that the entire amount of expenditures for raising water from the deep mines will be saved by the construction of this tunnel, and everybody must know, for it is a self-evident fact, that an immense amount of ores, and an immense amount of *débris* and waste rock can be taken out through this tunnel by a railroad very much cheaper than it can be hoisted up to the top of a mountain. It is a self-evident fact, so palpable, so patent, and so conclusive, that it is almost waste time to argue it for a single moment.

Then, again, gentlemen, in regard to this matter, it is conclusively proven, and I think the gentlemen of the committee, all of them, when they shall go through the testimony, will be fully satisfied that the Government is fully indemnified by this bill for all the expenditure it shall make ; because by the bill, it will have a mortgage or lien for their expenditures upon the tunnel, and upon all the franchises of the tunnel company, for its reimbursement for this amount of money; and Professor Newcomb and PROFESSOR RAYMOND and Mr. Luckhardt, these men who understand this question thoroughly, especially the latter two gentlemen, say there is no question about the security to the Government. It is only a question of time, Congress simply loaning this money for a very short time to develop this great interest, and to make this a model work for other mining operations with similar surroundings and similar conditions, so that capital may safely invest for the development of these great interests.

Gentlemen, I will not take up your time by arguing or advancing any theories touching the politico-economical bearings of this case. You are, each of you, more competent to do that than I am ; but everybody knows what the effect of these vast productions of the precious metals will have upon every interest of the country. It gives a stimulus to industry, and it raises the prices and values of the property ; and in connection with our public debt it is of the greatest importance. It is the touchstone by which we are to reach that condition which we all desire as Americans, viz., to be entirely free of debt. It has been our proud boast, in all the years up to the time of the rebellion, that we had a debt so small that it was comparatively nothing ; and we want to be different from all the other nations of the earth again, and wipe out this public indebtedness, so that we can say, as we did when our rebellion commenced, that we were comparatively out of debt : so that, in case another war shall come upon us—never another one of an internal character, I trust—I hope the Government will be administered with that justice to all sections, so that that may be avoided in the future ; and I also hope that the time will never come when we shall come in collision with other nations ; but, if it does come, you cannot over-estimate the advantage of being free from debt, and being able to go into the markets of the world and get all the money we need, and look back to the past and say that, after this vast war, this vast outlay of public expenditure, and this vast accumulation of debt, in this short time, we have extinguished all our debt through our resources, which have been so vast ; and it will be very long before governments will seek to embroil themselves with us, in my judgment.

Gentlemen, I have talked very much longer on this matter than I intended; for I did not design to say anything. What I have said has been said in a very desultory and unsatisfactory manner to myself, and I will therefore call it an opening, and leave the case, so far as I am concerned.

The Committee adjourned till Wednesday evening, April 17, 1872.

MR. SUNDERLAND'S ARGUMENT,

April 17, 1872.

Mr. Chairman : I feel some embarrassments in the argument of the questions before the committee; particularly on the ground that I do not know what I have to answer. What was called an opening of the case on the part of the Sutro Tunnel Company on Monday evening gave me no means of even guessing what the line of argument would be in the case. I shall this evening confine myself rather to making suggestions to the committee than attempting to draw deductions or to make an argument ; and I feel the more induced to pursue this course, because the committee is composed of gentlemen of intelligence, who would most likely prefer to make their own arguments in their own minds, and draw their own deductions from the facts before the committee and from the suggestions made on either side. From the first discovery of the gold in California in 1848 up to the present time, the Government has acquiesced in the claim of discoverers and their successors in interest to the ownership of the mines, while the legal title to the mines has been conceded to be in the Government ; yet there is not a single instance on record where the Government has interfered with the working of gold and silver mines on the public lands as the parties in possession chose to work them.

Under the laws of the different States and Territories west of the Rocky Mountains, and under the mining rules and regulations in each mining district, and under the decisions of all the courts of the different States and Territories where these mines are located, the claims of the miners have been regarded—treated not only as property, but as real estate. Interests in mines are conveyed by deed. The deeds are recorded as deeds of conveyance of real estate. Ejectment suits are brought for the recovery of the possession of mines. Mines are sold under execution. They descend to heirs, and are devised as other property ; and if you have the curiosity or the interest to examine the reports of those different States and Territories, you will find that the decisions all recognize not only the interest of the occupants of mines, but that that interest is real estate. Therefore, it may be deduced from

the non-action on the part of the general Government, and the actions of claimants to mines, and the acknowledgment of those claims by the highest authorities in the different States and Territories where the mines are located, that the parties claiming the mines, and being in possession, have had the equity, the title in equity, to those mines, the Government holding the legal title as trustee for the benefit of the parties in possession. I think the policy that has been pursued by the general Government a wise one. It has encouraged the search for mines. A poor man in that country starts out with his little pack on his back, and his shovel, and his pick. He clambers over mountains in search for mines. It is nothing more than a proper reward for his labor and his enterprise—if you please, his recklessness, in abandoning home and comforts—to grant to him, when he finds a mine, the right to work it, and to realize from it whatever may be in the mine. Then follows, gentlemen, after the first discovery, the investment of the money of capitalists necessary to develop the mine, because, in a silver mine especially, and in all quartz veins containing either gold or silver, muscle alone will not develop a mine. It requires money. Hence, when the Government has, by its acquiescence in the claims of miners, acknowledged the right of the possessors to work the mines, these capitalists have gone on in good faith, and invested the money necessary to develop the mine. Hence I say that we were long ago, and long before Mr. Sutro had any claim upon the Comstock, in good faith the owners of that mine.

If we were the owners of the Comstock, neither Mr. Sutro nor the Government has any right to interfere, and to dictate to us how we shall work that mine. If it is ours, we have a right to develop it in that mode and manner that we think to our interest. I shall attempt to show before I get through that we are not working the Comstock at present with that degree of ignorance imputed to us by Mr. Sutro. The answer which I anticipate to this proposition of our ownership of the mines is, that certain contracts were entered into by different mining companies, owning different sections of the Comstock, while we were in possession. Here would seem to be an acknowledgment by Mr. Sutro that these different mining companies did own the ground claimed by them, and he would therefore seem to be estopped from now asserting that we did not own the mines, when he has contracted with us as owners of these different mines.

But, admitting that all the mines upon the Comstock had entered into this contract with Mr. Sutro, it does not authorize the Government to interfere in a controversy between Sutro and the present owners of those mines. It was a private contract, in which there were covenants on both sides, and the mining companies attempted to secure themselves by requiring certain things to be done by Mr. Sutro. I wish now to read from the contract :

"ARTICLE 1. The parties of the first part" (Sutro and associates) "agree that they will, on or before the first day of August, 1867, commence and with reasonable energy and vigor, and and at their own expense, run, excavate, and complete the tunnel and lateral drifts hereinafter mentioned."

"ART. 3. The parties of the first part covenant and agree that the work shall be commenced at the time specified, by running the tunnel from the foot hills of Carson valley ; and also by simultaneously sinking at least three shafts of sufficient capacity on the line of the tunnel, and when the shafts have reached the depth required for the level of the tunnel, then to drift in both directions from the bottom of each shaft, so that there shall be at least seven places of excavation going on from the time that all the shafts reach the requisite level, all the time until the tunnel is completed, unless connections between some of the shafts are sooner made; and the said work, at all times, shall be prosecuted continuously and without any interruption, except from unavoidable accident, until the completion of the tunnel and of the works which, under this agreement, are to be considered as draining the mines of the party of the second part; and in case of any such interruption occurring, the cause thereof shall be removed or remedied, and the work resumed without delay.

"And the parties of the first part covenant and agree, that on or before the said first day of August, 1867, there shall have been subscribed, in good faith, and by apparently responsible persons, at least the sum of three millions of dollars, for the purpose of carrying on and completing the said tunnel, and the lateral drifts hereinafter mentioned ; that of said sum at least ten per cent. shall have been actually paid in cash ; that during the first year in which the work shall be prosecuted, commencing on said first day of August, 1867, there shall be expended upon or on account of the work, not less than the sum of four hundred thousand dollars."

Now, I say that there was at least an attempt on the part of the owners of the mines upon the Comstock to protect themselves in this contract, by requiring certain things to be done at certain times. First, Mr. Sutro agreed, on his part, to show that he was acting in good faith, to procure from responsible parties a subscription of stock to the extent of three millions of dollars, on or before the first day of August, 1867. He agreed, that within one year thereafter he should expend actually upon the construction of the tunnels and the shafts $400.000. Therefore, in this contract, time was made an essential part of the contract. Time was of the essence of the contract. Now, there is no pretence here that he had subscription to a single dollar's worth of stock during that time, or that within the year next succeeding that date he expended a dollar upon the work on the tunnel ; and when he has failed to comply with that most important part of the contract, under its terms the contract itself had ceased—ceased to be obligatory upon the part of the mining companies which entered into it. Even at this day there is no pretence that there is any subscription to stock.

I have here, and will exhibit, before I get through, to the committee a circular issued by the Sutro Tunnel Company, which states that the capital stock of the company is $12.000.000 ; that it is full paid stock, and consequently there is no subscription to the stock at all, and it is unassessable.

At the time this contract was made there was fear entertained by the different officers of the different mining companies that the water would increase in depth upon the lode, and in consideration of Mr. Sutro's agreement to do these things within the time limited in the contract, it was agreed to by the officers of the different mining companies who have signed this contract. It may be as well for me to say here that the most of these officers signing this contract, at the annual election next after the signing of the same, were, on account of the signing of that contract, ignominiously turned out of office. The stockholders of these different companies repudiated these contracts whenever they had a right to have their voice heard. On account of the failure of Mr. Sutro to comply with these contracts as to time, the different mining companies upon the Comstock, in order to lessen the cost of supplies, which Mr. Requa says have been reduced 33 per cent. on account of the construction of the Virginia and Truckee railroad, subscribed and paid to that road over $800.000. Now, if the Sutro tunnel had been commenced and prosecuted as Mr. Sutro agreed to do, there would have been no necessity for the expenditure of this large sum of money by the different mining companies.

By some representation—what it was I do not know—in July, 1866, Congress was induced to pass a law which not only affirmed the contracts, so far as the onerous part of the same on us was concerned, but gave Sutro above what he had asked for (the franchise, estimated by him to be worth about $6.000.000 a year) this royalty of $2 a ton, and the charges that are specified in the contract of 25 cents per ton per mile for the transportation of ores and timbers, and 25 cents for passing in and out through the tunnel, and without any limitation as to time. We were all asleep. We were not here boring a tunnel through Congress, or through anybody else. We did not know that Sutro was coming here ; but he came here, and got an act passed by Congress and approved by the President, not only to give him all that he claimed under the contracts, but to make all other companies not subscribing to the contract liable to the same payment. I wish now to read the third section of this act of Congress :

"*And be it further enacted*, That all persons, companies, or corporations, owning claims or mines on said Comstock lode, or any other lode drained, benefited, or developed by said tunnel, shall hold their claims subject to the condition (which shall be expressed in any grant they may hereafter obtain from the United States) that they shall contribute and pay to the owners of said tunnel the same rate of charges for drainage or other benefits derived from said tunnel or its branches as have been or may hereafter be named in agreements between such owners and the companies representing a majority of the estimated value of said Comstock lode at the time of the passage of this act."

It is a fact well known, and one that will not be disputed, that there were companies upon the Comstock who persistently refused to enter into this contract. Now, against our will Mr. Sutro came here and got Congress to pass the law, making this contract applicable to the mines which refused to sign his contract, and without any limitation as to when he was to perform the work which he agreed to perform. All we ask, Mr. Chairman, on this question, upon this contract, as to whether it has been forfeited or not by Mr. Sutro, on account of his non-compliance with the terms of the contract, is to be let alone, and let us fight it out between ourselves in the courts, if necessary to be fought out there, and not have any interference, by Congress giving Mr. Sutro three millions to fight us—giving him the advantage of three millions over us to fight this matter out.

I now call the attention of the committee to a fact which they may not at present understand, and to urge that as a reason why Congress should not interfere where the destruction of property by the construction of this work will be so great. Mr. Sutro, in a work issued by him in New York, on the 1st of September, 1866, says—I read from pages 22 and 23 of this pamphlet or circular of Mr. Sutro's—

"The real estate, with improvements, in Virginia City and Gold Hill, exclusive of any mining property, was taxed in 1865 at $6,882.084. If the mines should cease to be worked, property would become entirely valueless, and since the only means of securing the permanence of the mines is the construction of the proposed tunnel, people owning real estate at these places cannot seriously complain should they be forced to a removal to the mouth of the tunnel.

"The steam mills, which are at present scattered in a circuit of fifteen miles around the mines, and have cost from five to six millions of dollars in their erection, will also have to be removed to the mouth of the tunnel."

There is, first, real estate in Gold Hill and Virginia City of about $7.000.000; and, second, the cost of the mills, at from $5.000.000 to $6.000.000, which would at least be half destroyed by the removal. Since that time there has been this railroad built, which is placed by the testimony of Mr. Requa at about $3.000.000. Now, the carrying out of this scheme of Mr. Sutro, as the commission report, is the only one which will make the tunnel a success. That is, the erection of a dam upon Carson river, using it as a reservoir, and taking the water for power to a point opposite the mouth of the tunnel, will destroy Gold Hill and Virginia City; will destroy the railroad, as is shown in the testimony of Requa; will destroy every mill upon the Carson river, and all the water power now used upon that river. The loss of property is from $13.000.000 to $14.000.000.

Now, I ask if Congress can be induced to pass an act the result of which will be to destroy this entire property, and absolutely bankrupt every man upon the Comstock, whether he owns a shanty worth $500, or whether he owns the finest building in either the town of Gold Hill or the town of Virginia City?

But of what benefit now, Mr. Chairman and gentlemen of the committee, would this tunnel be if completed? I find that my time is running on so rapidly that I will only be able to refer to pages 6, 7, 8, 9, 10 of the report of the Sutro Tunnel Commissioners, in which they state that the construction of the tunnel is not a necessity, either for ventilation or drainage. They figure up that the working of the Comstock—that is to say, the mining and transportation of ore—will be $700.000 more after the completion of the tunnel, transferring ore through the tunnel, than it is at present. That is the way it is proposed to economize the working of the Comstock ores, with a cost of $700.000 per annum more than at present.

Then, on page 11 of this report, without reading, I will state that the commission say that by the erection of a dam upon the Carson river the waters of that stream can be utilized at or near the mouth of the tunnel, so as to reduce the ores produced by the Comstock. In their opinion, if that can be done, and then proper concentrating works are erected at the mouth of the tunnel, of which they know nothing, then this tunnel will be a success.

I read now from page 13:

"Whether the Sutro tunnel project fulfills this condition of economy depends, in the opinion of the commission, upon the practicability of securing a sufficient water power from the Carson river, at all seasons, for the reduction of the ores, of the possibility of which, though not fully proved by adequate surveys, no doubt is entertained, and upon the efficacy of the method employed in Germany and other countries of Europe for the concentration of ores, of which we are unable to vouch."

Now, gentlemen, I refer you to the report of General Day, which is the only foundation for this project of a dam. General Day says in the report, which seems to have been made after the commissioners left that country, and in answer to the letter, I believe, from Mr. Sutro, that the fall of the river is 255 feet from the Mexican dam to a point opposite the mouth of the tunnel. The point that he selects for the upper end of the reservoir is what is called the Mexican dam—the dam highest up the river. The lowest point is a point in the river opposite the mouth of the Sutro Tunnel, and according to the evidence here that entire fall is now utilized, with the exception of two insignificant mill sites, which in all will not amount to 30 feet.

Now, the proposition is to erect a dam at the point which is called the Franklin dam, 155 feet high, to flow the water back to the Mexican dam, covering an area of 1,480 acres. By some strange accident the commissioners say that they would get a fall, according to the report of General Day, of 255 feet—the fall from the Franklin dam, where this proposed dam is to be built, to a point opposite the mouth of the tunnel, being 100 feet Now, it is very clearly to be seen that if this is used as a reservoir, the water must be drained from the bottom of that reservoir, and if so, there is only 100 feet fall from the reservoir to the mouth of the tunnel. If it is not used as a reservoir, but simply as a dam, then, according to the testimony of General Foster, which is found on pages 473 to 487 of the testimony, and according to the testimony of Colonel Lalley and that of Messrs. Requa and Batterman, and particularly of General Foster, who went into the figures, it is very clearly shown (but which I have not now the time to read) that the evaporation from the surface of 1,480 acres, and the percolation or filtration would be more than double the quantity of water running through the Carson river at the time he (General Foster) was there.

So that, if used for a fall of 255 feet, and not as a reservoir in the dry season of the year, there could not, by any possibility, be a drop of water flowing through the race or flume, and the mills would all stand still.

But then, as the commissioners themselves say, and as each commissioner in his testimony, when I interrogated him, has said—and it will be found in the testimony taken—this whole project of the Sutro tunnel will prove a failure, unless this water power can be utilized in the way they point out, and new machinery, which they pretend to know nothing about, can be found for the concentration of ores—the economical concentration of ores—then the whole project is a failure. In connection with the advantages claimed for this Sutro tunnel, I wish to read from a work here which has been eulogized very highly, I believe, by Mr. Sutro.

Mr. SUTRO. I do not believe I ever did.

Mr. SUNDERLAND. It is the only reliable work that has ever been published on the Comstock lode, because Mr. King spent a number of months upon the Comstock, and he gained all the information that we possessed, and that is what no other living man ever has or ever will do until he spends some time there.

All those men living in Germany and talking about the Comstock—these men who are educated in Germany, in a country where you cannot bore 200 feet into the ground without having tunnels to relieve you from water—talking about the Comstock, of which they know nothing, is mere nonsense. These tunnels in Germany, and in other mines where tunnels have been run, have been run for drainage, but we live in a different country from that of Europe. We are in a dry country. We are in a country where, by actual experiment, we have proved that in the attainment of depth upon the Comstock we find less and less water all the time, and in two-thirds of the entire Comstock worked to-day the mines are as dry as this floor.

But now I want to refer to what it is claimed here the public and the Government are interested in, to wit: the percentage of the metals saved by the present mode of working.

Now, that to me is rather a strange proposition. If we are the owners of the mines, suppose we have our patent subject to this right of Mr. Sutro, which gives him his royalty and his other charges when he completes the tunnel, still we have our patent, subject only to that condition, and now it is claimed that Government must interfere and assist Mr. Sutro, in order to direct us in another way and another mode of working our mines. Now, has Government ever attempted to interfere with the working of any mine, either silver or gold or an iron mine? Has Government ever interfered in the mode of planting, or the culture of cotton, or rice, tobacco, sugar, corn, wheat, or any of the cereals? It might just as well do it as to interfere with the mode and manner of working the Comstock. There is just the same idea of liberty to direct a man when to plant or when to reap as there is in directing us how we shall work the Comstock.

But I want here to say that nothing would be gained in the percentage saved if the tunnel was constructed. The following tabular statement, taken from the annual reports of the Savage Mining Company for the years ending July 1, 1868, and July 1, 1869, exhibit some of the results of mining operations. These statements are thus commented upon by Mr. King, pp. 241—246:

"The tables show the assay value of the ore, both by the wagon samples and mill samples, the yield of the ore, and the relation of yield to assay value, the proportion of gold and silver, both in the ore and in the bullion, and, finally, the total product in bullion of the quantity treated. The operations of each month are shown in the statements, but the figures of the tables for any single month represent the average result obtained during the month, not from one, but from all mills employed by the company in the reduction of its third-class ore. The second-class ore, treated in the last half of 1867, of which the results are also given, was all worked in one mill. It should be observed concerning the comparatively lower percentage of value obtained from the second-class ore, as shown in the table, that, being richer, it resembles more in character the first-class ore, referred to in commencement of this chapter, in which the precious metals are combined with zinc, lead, copper, antimony, &c., rendering the extraction of the gold and silver more difficult, and unfitting it for profitable treatment by the pan process. In the last year of the two referred to no second-class ore was distinguished.

"The impression generally existing that only sixty-five per cent. of the value is obtained by pan process, and that thirty-five per cent is lost, is erroneous; for the return of sixty-five per cent. is based on the result of treating the ore in the pan, and collecting the amalgam in the settler; in some mills the additional product of the agitator is returned with that of the pan and settler, while in other mills this is not done, especially if the required standard of sixty-five per cent. has been already reached by pan and settler without further addition. Moreover, the return of sixty-five per cent. includes nothing of what is, or may be, obtained from the subsequent treatment of slimes and tailings; and, furthermore, it is to be considered that the ore, as charged to the account of the mill, contains an average of six or seven per cent. of moisture, for which in the return no allowance is made; the sample for assay, by which the return is made, being previously dried, sixty-five per cent. of the dry sample is really equivalent to sixty-nine or seventy per cent. of the wet rock.

"This may be illustrated by the following data concerning the operations of the Savage mill during six months ending December 31, 1867:

"During that time 5,830 tons were worked. The assay value of this ore was $318,639 80 per mill samples, and $324,207 72 per wagon samples; or $54 55 per ton by mill samples, and $55 61 per ton by wagon samples. The total yield obtained was $220,785 17; equal to sixty-nine and two-tenths per cent. by mill samples, and sixty-eight and one-tenth per cent. by wagon samples. This yield was obtained by the ordinary operation of crushing, amalgamating in the pan, and collecting the amalgam in the settler, this much constituting the process to which all ore is submitted in all the mills.

"It will be observed that the required standard of sixty-five per cent. was already exceeded by this alone, without including the product of the tailings, or allowing anything for moisture. During the six months to which these figures relate, the product in bullion from the tailings was $12,730 71; and if this be added to the yield of the ore originally obtained by the first operation, we have a total product of $233,015 88, equal to 71.87 per cent., instead of 68 1/10 per cent. by wagon samples; or 73.12 per cent. instead of 69 2/10 per cent. by mill samples. If, in addition to this, we now allow for seven per cent. of moisture on the ore, not taken into account in the assay sample to which the foregoing percentage are referred, we have an actual return of 77.27 per cent. by wagon samples, and 78.62 per cent. by mill samples.

"Finally, it is to be observed that the product from the tailings above given is not all that is obtained from that source. The amount here stated comes chiefly from the agitator. The stream of tailings passing from the settler, in which the bulk of the amalgam is collected, enters the agitator, where much of the amalgam and quicksilver that has escaped the settler has further opportunity to deposit itself. At intervals of four or five days this vessel is emptied, and the accumulations are reworked in an ordinary pan, yielding $18 or $20 per ton. The yield thus obtained is nearly $2,000 per month, and forms nearly, if not quite, all the product represented in the foregoing statement. After leaving the agitator the stream passes on, the tailings still carrying enough value to make them worth further treatment; for which purpose they are, in fact, sold by the mill to second parties, who do a profitable business in working them again; but this last product is not included in the figures already given. The yield obtained by this final workings of tailings is not definitely known to the writer, but is generally stated at about $5 50 per ton, which would add about ten per cent. more to the results of the progress in the mill, as already shown.

"Some mills claim to have obtained more than eighty per cent., and even ninety per cent. of the assay value of the ore by the ordinary methods, without including the product of the tailings, or allowing anything for moisture."

Mr. Requa, on page 495 of this testimony, says that 92 per cent. is now saved by the various processes, and that 72 per cent. is returned by the mills to his company, and this is not a matter of conjecture; that during the last year, when that company paid over $2.000.000 in dividends and took out nearly $3.500.000 in the aggregate, there was returned by the mills to them 72 per cent. of the assay value of the ores. And then he says that 20 per cent. more is saved in the different manipulations of the slimes and tailings after they leave the mills. Mr. Batterman, on page 569, says that from 90 to 92 per cent. of the assay value is now saved by the present process used.

Now, Prof. Newcomb was very enthusiastic about this tunnel—exceedingly so, as the members of the sub-committee will remember—and he could not stretch his imagination—and he has a very vivid one—up beyond 90 per cent. that might be saved if these concentrating works were erected at the mouth of the tunnel, and sufficient water power procured there to run the works and to concentrate. Now, then, if by the proposed tunnel, and by the erection of works, as proposed, at the mouth of the tunnel, only 90 per cent. can be saved, where have the people, where has the Government, any interest in the running of this tunnel? And that we save now that amount is shown by the different reports: shown by Mr. King; shown by Mr. Requa, who is a mill-man and a miner; and shown by Mr. Batterman, who is the superintendent of the Gould and Curry mine at present, and has been a mill-man, and knows, and does not conjecture what percentage is saved. It has been said here at different times that the people upon the Comstock, and especially the institution upon the Pacific coast, called sometimes by Mr. Sutro the California Bank, are great rascals; that they cheat each other every day, and that each man stays awake all night to try and get some advantage of his neighbor the next day; that there is constantly going on what he calls "stock-jobbing;" that when a body of ore is discovered in any mine upon the Comstock, it is covered up until the man who discovers it can buy from his innocent and unsuspecting neighbor all the stock he wants, and then he uncovers it. I have heard of such things. I think Mr. Sutro would play that game if he had a chance; but I do not see how the contruction of this tunnel is going to prevent this stock-jobbing.

How it is that a body of ore can be discovered except in the sinking of a shaft, or the running of a drift in any part of the mine, I cannot understand. It would seem from Mr. Sutro's idea that the moment that tunnel goes in, you have only got to put a pair of glasses on your eyes, and you can see everything from one end of the Comstock to the other, and a thousand feet below the level of that tunnel.

Now, how can this thing be any different from what it is now, after the tunnel is constructed? The same drifts must be run; the same shafts sunk; the same winzes must be made to connect the different levels; and there is one or two men that will first find the ore before any one else knows anything about it. Then, if I am right in that, it is not necessary to undertake any defence of the present men who control the Comstock; of the men who have put in the money there to carry on that great work; to demonstrate that it is a fissure vein, without the aid of Mr. Sutro or any of his friends; to bring out $150.000.000 to be distributed in this country, and assist to keep up the credit of the Government; men who had the nerve, the means, and the capacity, and the intellect to do all these things—I say it is not necessary for me to enter into any defence of these men on account of the attacks of Mr. Sutro: where they are known they need no defence. And the idea that not only shall the Comstock mine be ventilated, but that the moral influence of Mr. Sutro and his tunnel will put a stop to all this stock-jobbing and stock-jobbing operations, is too ridiculous to be talked about.

Next I say, gentlemen, there is no necessity for this appropriation at the hands of the Government. Mr. Sutro, in this same work, issued by him in 1866, after the passage of this act of Congress, claims that the sale of the land at the mouth of the tunnel, in consequence of the destruction of all this property that I have called attention to, will be worth to him $3 000.000. I refer to page 31 of this pamphlet. That his income, aside from this, will be, when the tunnel is completed, according to the yield which his imagination has built up, two or three times that of the present, or the yield at that time will be $6.290.000 per annum. Is not that enough; what more does he want? A man with an income of $6.000.000 per annum, I should think, had some assurance, if not impudence, to go to Congress and ask assistance—a gift, in reality, which I will show, if I have time, of $3.000.000, in order that he shall gain a privilege which will bring him an income of over $6.000.000 per annum. The same thing is reiterated by Mr. Sutro, or rather by the Sutro Tunnel Company. In this circular, issued, I believe, in 1870, the same figures precisely are given.

Now, Mr. Chairman, I find that my time is running away faster than I am. I do not believe, for my part, much in the accuracy of Mr. Sutro's statements, either of facts, or his imagination, or his estimates, and I wish to refer the committee to a few of these inaccuracies. On this same page, and according, I believe, to the estimate of a gentleman whom he has complimented very highly as being a distinguished engineer, the cost of the tunnel will be $1.983.616, and the revenue during the construction of the tunnel $500.000, leaving less than a million and a half of dollars actually to be expended in the construction of that tunnel.

Now that is one estimate, reiterated again in 1870 in this pamphlet. Yet, in the report which was read night before last by Mr. Rice, written, as I take it for granted all these reports in reference to the Sutro tunnel have been written, by Mr. Sutro, and that signed by Mr. Ashley and otheir members of the committee, the estimate is made $8.000.000. Then he was applying for $5.000.000 from Congress. That is the difference in his estimates when he is selling his stock and applying for aid from the Government.

I wish now to call your attention to one other of Mr. Sutro's statements.

I read from page four of this circular by the Sutro Tunnel Company:

"The exact length of the tunnel will be twenty thousand one hundred and seventy-eight feet, over eleven hundred feet of which are already finished—"

When it must have been known to every gentleman of this committee who has listened to the testimony that no part of the tunnel is completed.

"The work being pushed by day and night, it is confidently estimated that the entire tunnel, with the assistance of shafts, can be finished within two years. With its main branches its entire length will be about six miles, and the entire cost from $2,000,000 to $3,000,000 less than the estimated income for a single year."

On page 14 of this book of Sutro's upon the Comstock, he says that the present yield of the Comstock is about 600,000 pounds.

"Its present annual yield is about six hundred thousand pounds avoirdupois of gold and silver bullion, worth $16,000,000, equal to over one quarter of all the gold and silver produced by all the States and Territories on the Pacific coast, or equal to one-third of all the silver produced per annum in the world, and exceeding the present total yield of all the silver mines of Mexico."

The silver mines in Mexico, as stated by Mr. Sutro the other evening, were $29.000.000 a year.

I refer the committee now to a statement made in the Weekly Bulletin of Friday, February 16., 1872, in which the yield of the mines in the State of Nevada are given. They foot up $22.177.046, of which about one-half were produced by the Comstock, and the other from the different mines in the State of Nevada.

Some weight must be attached to the quantity of silver produced by the Comstock. I will state that it is in evidence in the testimony of Mr. Requa that one-half in value of the bullion produced by the Comstock now is gold.

I wish now to call your attention to one other little inaccuracy, a mistake in imagination made by Mr. Sutro. It is on page 16 of this book. After a great deal of figuring, as he has figured here before the committee from time to time, and before witnesses, and convinced witnesses you know that they were lying, and that he was right, he figures up here, and in this finely-bound volume

sends it to the world, that the cost of pumping upon the Comstock is $4.167.720 per annum, without allowing anything for interest on the money invested in machinery, which will amount to several million dollars.

The commissioners estimate the cost of pumping upon the Comstock for the last year at $124.674. Now, that is a slight difference in opinion between Mr. Sutro and these commissioners.

The bill which is now before Congress, and which ought to be termed "a bill for the relief of Mr. Sutro," it seems to me, has a great many objectionable features. The preamble recites certain things which are in dispute, and the first section of the bill directs the Secretary of the Treasury to set apart as a special fund, to be known as the "mineral land fund," all moneys received by the United States from the sale of mineral lands, to be used in fostering the mining interest as Congress may hereafter direct. The second provides that whenever the Sutro Tunnel Company shall have completed 500 lineal feet in the aggregate of its tunnel and its shafts or branches, the Secretary of the Treasury, upon application to him by said company, shall, from the aforesaid fund, or, if insufficient, from any money not otherwise appropriated, pay to the said company $50.000; and in like manner shall pay over to said company a like sum upon the completion by said company of each and every additional 500 feet of said tunnel, shafts, or branches, as hereinafter specified.

There is no estimate here, Mr. Chairman, of the cost of sinking any shaft, and why Mr. Sutro should have $50,000 for the running of each 500 feet I do not know. It certainly does not cost that. I do not understand exactly how the committee understand the condition of the present tunnel. It is said to be completed, and I think we had some *ex parte* exhibitions here, fine drawings of the tunnel completed; and the newspapers say it is completed 2.800 feet. Now, the then superintendent, Dr. Hazlett, reports, that on the 1st of July, 1871, the company had spent $42.800 78, and had run the tunnel 2.185 feet.

Now, whether that is the completion of the tunnel or not I do not know. It seems to include all the expenses connected with the starting of the tunnel, putting up of the engine, and in fact starting the work, as you would start machinery upon the top of a mine or a shaft, for the purpose of working a mine, which generally cost more than the sinking of shafts for hundreds of feet or even thousands of feet.

Section 3 authorizes the appointment of a board by the President to examine the tunnel and certify to the completion of the work for each section; and upon that the Secretary is to pay out the money.

Section 4 provides that, for security to the United States of the repayment, by the comqany, of the sums advanced and the expenses of the commissioners, the payment of such sum shall *ipso facto* constitute a first mortgage lien upon the whole of said tunnel, together with all the engines, buildings, and appurtenances thereunto belonging. Now, that is very kind on the part of Mr. Sutro to offer a mortgage on about one-half what the Government has already given him. Then have given him a franchise. They have given him all the mines he may discover between the mouth of the tunnel and the Comstock. They have given him this royalty: they have given him $3.000.000 worth of real estate at the mouth of the tunnel, which he does not propose to mortgage back. The Government has given him a property which he says is worth over $6.000.000 a year; and yet, when he asks $3.000.000 more, he mortgages a moiety of that property, not the whole. How does he propose to repay this? It is called, I believe, a loan, but he does not agree to pay any interest.

Gentlemen, when capitalists loan money, they require interest to be paid, as well as security for the principal. And when a loan is made upon property, and there is no other security but the property, is it not usual to require all the income from that property to be paid over to the party loaning? But Mr. Sutro does not propose to do anything of the kind. He proposes to expend this $3.000.000 as disbursing agent and superintendent for the Government, the Government to furnish all the money to run the tunnel until its completion; and after that, under this bill, as he has procured it to be introduced, he proposes to be bookkeeper and treasurer for the Government. And then, according to his hown accounts, and according to his own returns, without any supervision from anybody, he proposes to give back to the Government one-quarter of the net proceeds of the tunnel.

Now, what interest has he in this work? What interest has he in this tunnel that entitles him to three-quarters of the net proceeds, he himself being the accountant, and the Government, that furnishes more money than he says it will cost to run the tunnel, receiving one-fourth? That is a bargain that any man would like to make. It is one I should like to make myself.

Now, there seems to be a provision here to mislead. First, there is the setting apart of the proceeds of the sale of mineral lands as a special fund out of which to pay for the construction of this tunnel, as if the proceeds of the sales of mineral lands amounted to anything.

I have not inquired at the land office, but I will venture to say from the passage of this act, in July, 1866, to the present time, that there have not been received $50.000 in all. You pay by the acre, under this act of Congress, for a vein—a lode. It is five feet wide, and how much does it take to make an acre? In this connection I wish to allude to an argument which has been made on the floor of Congress, and doubtless will be made again, that the people of the whole coast, the whole Pacific coast, the people upon the Comstock, the Legislature of the State of Nevada, the Government of the State, and all officials have appealed to Congress to set aside the proceeds of the sales of mineral lands, or to make appropriation for the running of this tunnel.

I hold in my hand, which I will not weary you with reading, a memorial of the Legislature of the State of Nevada, at its last session, to Congress, to set apart the proceeds of the sales of mineral lands for the erection or the assistance to erect large reduction works similar to those in Swansea, so that the different qualities of ores found from Utah to California may be reduced in that country, without sending them to a foreign country, and paying tribute to that country for the reduction of the ores besides the cost of transportation. So that, so far as the Legislature can speak the sentiments of the people, if they ever did authorize or indorse the idea of an appropriation of this kind by Congress, they have since seen their error, and now ask that these funds shall be diverted in a different way.

What specially induced the passage by the legislature of this memorial, was the introduction into the Senate of the United States of a bill appropriating the proceeds of the sale of mineral lands to the construction of the Sutro tunnel. Mr. Sutro has been at work here for seven years. He has been to everybody about this tunnel. There has been and was no opposition to the resolution or memorial passed by the Legislature of the State of Nevada in favor of the Sutro tunnel. There were many people oppoeds to it. It was introduced in the Legislature there without notice to anybody, and it went through the Legislature before anybody knew it who was opposed to it, as this act of Congress here was passed in July, 1866, before anybody being opposed to it knew anything about it.

I offered to prove, Mr. Chairman, by General Foster, and first to obtain his presence before the committee, I addressed a note to yourself (Mr. Waldron) assuming that you would send for him, for the purpose of proving certain facts as to the capital stock of the Sutro Tunnel Company; the disposition of a part of it, and the condition of the balance. I offered to prove by General Foster, when he was here the last time before the sub-committee, that this capital stock, which the circular here which I have read shows to be $12.000.000 or 1.200.000 shares, was full paid and unassessable, and that up to the 19th day of August, 1871, there had been issued of that 704.883 shares, leaving a balance on hand of 495.117 shares; and that these shares left on hand were alone set apart by the company for the construction of the tunnel and that at that date there only remained on hand $31.000 from shares sold. The report of the superintendent of the Sutro tunnel shows that up to the 1st of July, 1871, only $42.800 had been spent in the construction of the tunnel. I offered to make this proof to show that the Sutro Tunnel Company is a stock-jobbing company; that it is a paper company; that is a thing in imagination and not reality; that they have not worked in good faith; that they have put none of their own money into the enterprise; and that, though men are now connected with it of immense wealth, they will not put their own money into it.

When I offered to prove it, and it was objected to on the other side, according to all rules of evidence in any court, the facts that I offered to prove are taken for granted, and therefore I take it for granted that this is the fact, because it was objected to on the other side, and we could not get proof. Therefore I go upon the supposition that the facts could not be controverted, and they must stand by them as I offered to prove them. This tunnel project was started seven years ago. It has been under way ever since. These contracts were made six years ago, in which Sutro undertook to do the things I have mentioned: to get so much capital subscribed to his company and to expend so much money within a year thereafter. He did not do it. He would not put in any money. His friends would not put in any money. He went to New York, and they would not put in any money there, because they said, "If this is so good a thing as you represent in this book of yours, go back to California. They must pay so

much money, and we will pay the balance." But, mind you, nobody in California put up any money on this statement; nobody would put it up and intrust it to Sutro's management, however good the project. Then he went to Europe and got all these complimentary letters to himself, came back, but that did not get any money. Then the company was organised in San Francisco, in which, and by the terms of which, the stock-holders could not be assessed, because it is full-paid stock. When you have full-paid stock, under the laws of California, you cannot assess it; and these gentlemen who compose the Sutro Tunnel Company, and who have means outside of Sutro tunnel, were unwilling to own stock in the company that could by assessed.

Now, they have expended $73.000 in this great work that the newspapers have talked so much about; that Sutro has talked so much about; and that certain members of Congress have talked so much about for years past. Does that look like working in earnest? Does it look like acting in good faith with the people upon the Comstock, if they expect to enforce this contract, or does it look like acting in good faith with Congress, to whom they are now applying for this appropriation or this gift? Will Congress assist a company first with a franchise, and then with a grant of lands and mines, the value of which is a great deal more than the estimated cost of the tunnel, by the further appropriation of more money than Mr. Sutro's estimate of the cost of the tunnel, and then give it to him? If it is so necessary to construct this tunnel for the benefit of the Government and people of this country, that Congress should furnish all the money, let Congress furnish the money and own the tunnel when it is completed. We have heard a great deal of talk here about the benefit to science. Some gentlemen have been very eloquent upon that proposition, and they have instanced the appropriation by Congress for money to go to different parts of the world to notice an eclipse. But the Government furnishing the instruments and paying the expenses of scientific men to make those observations did not pretend to appropriate the eclipse to the men who made the observations. If they send a man to the north pole with a ship, to discover a northern passage, they do not give the passage to the man who first gets through it; and, whenever an appropriation is made for a scientific purpose, the man who executes that purpose and makes a discovery, or fails, gets his salary. Here is a proposition to give Mr. Sutro $3.000.000 for his own emolument—to enrich him—and yet it is called an appropriation for the advance of science. The proposition by Mr. Sutro is very clearly indicated by a buncombe speech made by him in Virginia City, the object of which seems to have been to embroil the laboring men against the owners of the Comstock, but which speech has been dignified by the commissioners, as I suppose, without having ever seen it until they had made a request to have it published as a part of the appendix to their report. It is a most demagogical speech, and one that is unworthy of a place in the report of gentlemen of the attainments of the commissioners; and therefore I must conclude that they had never seen it until it was in print in this report. I shall read from page 64 of this speech to show Mr. Sutro's idea of the object and purposes of the construction of this tunnel. You will remember that now he was speaking to a class of men a part of whom he had already induced to take stock in this tunnel of his, and the balance of whom he intended to induce to take stock. He says, on page 64:

"The tunnel, they know full well, is the key of this mountain and these mines, and will and must control and own this whole district."

That is the proposition. The tunnel is to control the Comstock, and the owner of the tunnel is to own the Comstock. Well, now, in the name of all that is right and just and fair, if that be the case, will you recommend an appropriation of $3.000.000, in order to take away from the present owners of the Comstock and transfer that property to Mr. Sutro? If he has got it by virtue of his contracts that he already possesses; if he has got it by virtue of the legislation which he claims to be in his favor, let him take it, but spend his own money to comply with that legislation. That mine to-day is selling for nearly $40.000.000 in the market in San Francisco, and yet Mr. Sutro here says, in his own language, that the construction of this tunnel will control and own the entire Comstock. No wonder he is so persistent in making his application to Congress for this appropriation. Then, he says, on the next page:

"Rouse up, then, fellow-citizens! You have no Andrew Jackson among you to crush out the bank which has taken your liberty, but you have a power within yourselves. I do not mean to incite you to any violence. I do not mean to have you assert your right by force of threats."

No better language could be used to incite these people to that very thing than to tell them not to do it.

"That would be unwise, unnecessary, and would only recoil upon yourselves; but I do mean to say you can destroy your enemy by simple concert of action. Let all of you join in together to build the Sutro tunnel. That is the way to reach them. They do already tremble lest you will act. They know you will form a great moneyed power, and that you will own the mines. They know it will cement you together."

That is to say, if Mr. Sutro succeeds in running this tunnel, that he and his company and the stockholders in that company will own and control the mines of the Comstock.

Mr. SUTRO. You might as well state that quotation fairly. I was alluding at that time to a consolidation of the mines; that the irrational manner in which the mines were being worked could not exist for any length of time; that the construction of that tunnel would consolidate them all, and would eventually result in an ownership of the whole property under a rational— —

Mr. SUNDERLAND. We object, Mr. Chairman, to receiving any kind of instruction from Mr. Sutro. In the first place, we think we know as much as he does, and because we know that we own the mines. We do not propose to receive any instruction from him either as to the mode or manner of working our mines or dealing in our stocks, and when he comes and says that it will be for our benefit to consolidate the entire mine, he means as a matter of course, to include the tunnel. When he does that and asks to have the control of the Comstock, we spurn and spit upon the proposition.

What did Mr. Sutro ever do to develop the mines of this country or to add to its wealth? Did he ever sacrifice his fortune or his time upon the Comstock? If so, what did he do? We have never heard anything about that. He has been running all over the world for the last seven years to get a smattering of scientific knowledge by which he can impose upon other people. But he knows no more about the practical working of a mine or the running of a mill than *a boy ten years of age.*

Mr. Chairman, the great question involved in this case is one which I shall only suggest, and that is, whether there is any right or justice on the part of Congress, outside of all questions connected with the advantage that the tunnel may be to the Comstock—whether there is any right, or justice, on the part of Congress in making an appropriation for such an object as the running of this tunnel. It is a private enterprise, and I will venture to say there is no precedent on record anywhere for the granting of subsidy like this. Subsidies have been granted, it is true, for the benefit and encouragement of commerce, both as between the States and between this and foreign countries—such as the building of railroads for the transportation of freight and passengers; for the encouragement of lines of steamers for the transportation of mails, freight, and passengers; the improvement of harbors and rivers; but all for the purpose of facilitating, increasing, and encouraging commerce.

Now, here, it is proposed to make a grant—a gift, in fact—of $3,000,000 to enable Mr. Sutro himself, or his company, to run a tunnel which he says will own and control the Comstock, when he and his company will be the owners of that. Where is the country to be benefited by that? Will anybody say that the Sutro Tunnel Company would manage things any more honestly, or any more fairly than the present owners? Are they any better men? Do they sustain any better reputation where they live? Can they get more metal out of a ton of ore than is in it? Then I will say again that this idea of consolidating the whole Comstock is one which is exceedingly objectionable. As the Comstock is now worked, it is owned in different sections by different companies. There is to some extent, in feeling, some antagonism amongst them, but not to the extent of interfering at all with the working of the mines. They buy and sell each other's stock, but you allow this entire mine, from one end to the other, including the tunnel, to be merged in one immense corporation, and you control the destinies, including the politics, of that State. In fact you own everybody.

Now, I submit that is not a desirable thing to have done, even through it should add a few thousand dollars more to the circulation of the country. We all know the power of these immense corporations. We all know the great danger that this country is now in. It is from the accumulation of power in the hands of corporations. And yet it is urged here and urged as a reason why Congress should make this appropriation, that the effect would be to consolidate the entire Comstock into one company. If that is according to the spirit of the age and the wish of Congress, I have nothing more to say.

ADOLPH SUTRO'S "ARGUMENT," April, 22, 1872.

Mr. CHAIRMAN,—Eight years ago I concluded to wind up all the affairs in which I was then engaged, in order to devote myself to the execution of a work which I looked upon and now consider of the highest importance to the country.

At that time I expected that many obstacles would present themselves in the execution of so difficult and extensive an undertaking, but little did I dream that, after eight years of toil, anxiety, and labor, I would find myself before a committee of the Congress of the United States *still* under the necessity of demonstrating what appeared to me self-evident from the beginning.

Great improvements, as the word implies, often involve the abandonment of the previous less advantageous methods, and hence we almost invariably find more or less hostility from some quarter or the other, but sometimes, also, opposition arrayed against undertakings which promise magnificent results, prompted by greed, avarice, and jealousy.

I have encountered my full share of all these ; but, as obstacles after obstacles presented themselves, they only nerved me on to overcome them, and I fully concluded to devote, if necessary, the whole balance of my life to the execution of this *one* work, believing, as I do, that it is one of the most important, if not the most important one now in progress on this continent.

By your permission, Mr. Chairman and gentlemen of the committee, I will now proceed to give a brief history of the Sutro tunnel, as it is called, its advantages in facilitating mining operations, the bearing it has upon the national prosperity, and also throw some light upon the character and motives of the opposition.

History of the Tunnel.

The year 1859 marked the discovery of the Comstock lode. Up to that time no mines of any importance were known to have existed on the eastern side of the Sierra Nevada mountains, and when news suddenly reached California that silver ore had been found there of fabulous richness and extent, the people became imbued with an immense excitement, and rushed in thousands to the spot. The winter set in with its hindrances, but the rush continued. Spring came, and there was no falling off. People believed, and were justified in the belief, that there in Nevada they had discovered an El Dorado unsurpassed by any ; and being interested in mining, and feeling considerable curiosity to see the spot myself, I went over there in March, 1860—as soon as it was practicable to cross the mountains—and began a series of examinations. I had expected to witness an extraordinary deposit, but I must say that I was truly astonished at the magnitude and importance of the discoveries which had been made. At that time only forty tons of ore had been taken from the mines and sent to San Francisco. Their reduction yielded a sum in the gross of $160,000, or an average of $4,000 to the ton—the most profitable forty tons probably that have ever been worked from that lode. I examined the topography of the country, and recognized the fact at a glance that nature had so favored the locality that the greatest facilities existed for the construction of a deep adit or tunnel ; and as early as the month in which I went there—when I had been there, in fact, but a few days—I wrote a letter to a newspaper published in San Francisco, the *Alta California*, giving some interesting information about the mines. The communication appeared on the 20th of April, 1860, and contains these reflections :

"The working of the mines is done without any system as yet. Most of the companies commence without an eye to future success. Instead of running a tunnel from low down on the hill, and then sinking a shaft to meet it, which at once insures drainage, ventilation, and facilitates the work by going upwards, the claims are mostly entered from above and large openings made, which require considerable timbering, and exposes the mine to all sorts of difficulties."

I wrote that when I had been there only a week, and when I did not know to my entire satisfaction that there was an extensive vein of ore there. Such explorations as had then been made did not extend to a greater depth than twenty or thirty feet.

At another point in the same article I remarked :

"Smelting furnaces, quartz crushers, and all the machinery required for the successful reduction of the ore, could be erected in the valley, and an inexhaustible supply of wood and timber furnished by floating it down Carson river from points some distance above, where there is an abundance of it."

At this time, it should be borne in mind, not a single road had been constructed in that country. The discovery had barely been made, and the mines had only been opened to a very limited extent. I became interested, more or less, in operations there. In 1861 I erected a mill and reduction works, and took up my residence in the neighborhood of the Comstock.

Franchise by the Legislature.

I watched the current of events, and day after day it became plainer to me that there was absolute necessity for a deep mining tunnel. It was clear to my mind, although the idea was very generally scouted. People thought an undertaking of the nature I planned could never be consummated in Nevada. It would take too long a time, and funds would be insufficient, they said ; but in the fall of 1864, when our Legislature met at Carson, I petitioned for a franchise, and a bill was drafted, giving me and my associates the right of way for a tunnel, as far as it lay in the power of the State Legislature to give it. The question of payments to be made to the tunnel company was left an open one, subject to such agreements as we might be able to make with the mines. It was, therefore, a sort of franchise such as would have been given to a toll road, or any similar improvement, and not that much. A few thinking men in the Legislature were struck at once with the idea, and they investigated the matter, although the majority of them said I must be hopelessly insane to propose anything of the kind, and would waste my time for nothing, for the project could never be carried out—the majority of them, I say ridiculed it. But they granted the franchise by a unanimous vote, nevertheless, and I proceeded without delay to submit the question to the companies owning and operating the mines. I had made a beginning then. I had some rights with which to start out. I had obtained a franchise. The question had assumed a tangible form.

Contract with the Mining Companies.

A number of us entered into an association, *with Senator Stewart for president,* and we submitted our proposition to the mining companies. I demonstrated the advantages of the tunnel, and in February, 1865, I published a pamphlet explaining the whole subject, and towards the latter part of the year, after many months of labor, by dint of perseverance, *I succeeded in making certain contracts,* which were nearly all completed by February or March, 1866. There was no little difficulty attending my progress.

The mining companies, or the men managing the mines, felt very slight interest in the question, and rather preferred not to bother themselves with listening to me. It was not opposition ; it was only indifference. There was no opposition ; yet it took me eight months of the hardest work I have done in this whole matter to make the people out there understand the merits of the

case. We employed some able lawyers, and so did the mining companies. The latter retained, amongst others, Mr. Crittenden, whose melancholy death at the hands of Mrs. Fair you all remember, and on our side were Judge Hardy and others. The best lawyers of California, in fact, were retained in our respective interests. They deemed the contracts very important, and spent months and months in the preparation of agreements, by which the mining companies were to bind themselves to pay the tunnel company $2 a ton on each and every ton of ore that might be extracted for all time to come. These agreements were executed on parchment, and the care with which they were gotten up will indicate at a glance that they were intended to last a great many years, and probably for a century.

People becoming interested in the subject.

After my pamphlet had been thoroughly distributed and discussed, I found almost everybody was becoming anxious to have the tunnel made. They began to comprehend it then. They appreciated the magnificence of the undertaking, and, instead of throwing obstacles in my way, they all joined together to help me, the Bank of California among them. They confessed that they could see no money in it then, but they could see a great many difficulties ahead, and they were willing to second my endeavors with their assistance. The royalty of $2 a ton was regarded as a mere bagatelle. No one thought of it at all as an adequate compensation for the manifold benefits the tunnel would confer; and the trustees of the mining corporations, who often met at my solicitation, and whose meetings I invariably attended for the purpose of explaining my project, the most of whom had been at first unacquainted with the advantages a deep tunnel would furnish, became firm in their conviction that, even at a royalty of $5 or $8 per ton, it would be advantageous to them.

The Bank of California favors the enterprise.

The Bank of California seemed particularly anxious to help me. They have since been arrayed against me in the bitterest hostility. They have left no stone unturned which could conduce towards the breaking up of the work; and Wm. C. Ralston, the cashier of the bank, who lives in princely style, in a magnificent dwelling, with sixty horses in his stables—a man who was at that time a warm friend of the tunnel, and has since grown rich by manipulating these mines—is now its enemy. I have in my possession a letter written by him at that time, which I have never produced before, for it is a private letter, given me as an introduction to certain parties, which during six years of warfare I have kept inviolate, although there is nothing of a confidential character about it. I may as well use it now. It will serve to show the opinion this Mr. Ralston once entertained of the Sutro tunnel. I will read it:

THE BANK OF CALIFORNIA.

"D. O. MILLS, "*President.* W. C. RALSTON, *Cashier.*

SAN FRANCISCO, *May* 4, 1866.

"To the ORIENTAL BANK CORPORATION, *London.*

"DEAR SIRS: This letter will be presented to you by Mr. A. Sutro, of this city, who visits England with the view of laying before capitalists there a very important enterprise, projected by himself, and known as the 'Sutro tunnel,' in the State of Nevada. This tunnel is designed to cut the great Comstock lode or ledge, upon which our richest silver mines are located, at a depth of two thousand feet from the surface, to drain it of water, render it easily accessible at that point, and thus increase the facilities and diminish the expenses of the progressive development of these mines.

"*Too much cannot be said of the great importance of this work*, if practicable upon any remunerative basis. We learn that the scheme has been very carefully examined by scientific men, and *that they unhesitatingly pronounce in its favor on all points—practicability, profit, and great public utility.* Mr. Sutro, we presume, is furnished with the necessary documents to make this apparent; and our object in this letter is simply to gain for him, through your kindness, such an introduction as will enable him to present his enterprise to the public fairly and upon its merits.

"Commending Mr. Sutro to your courteous attentions, we remain, dear sirs, yours, very truly.

"W. C. RALSTON,
"*Cashier.*"

That this same Mr. Ralston has since been moving heaven and earth to break up this tunnel enterprise I shall fully explain in the course of my remarks.

Law passed by Congress.

After I had finished the making of these contracts, I set out for Washington, with the intention of getting certain rights from the General Government which no State Government could give me; for the fee to the public domain, as far as these mines are concerned, was then entirely, and is to this day to a large extent, in the Government. I was to secure certain immunities at the capital, and then go to Europe, for the purpose of negotiating stock or obtaining the pecuniary loans which would be required to carry out the work. Nothing was said at that time about any direct aid from the Government.

I arrived in Washington about the beginning of June, 1866; and on the 25th of July a law of Congress was approved, granting to me the right of way and other privileges to aid in the construction of an exploring and draining tunnel to the Comstock lode, in the State of Nevada. It gave us the privilege of buying some land at the mouth of the tunnel, which we already owned by location, and the right to take such veins of ores as we might cut in running the tunnel, and which we would have had under the common mining law; confirms the rates made in these contracts of $2 a ton; and makes the patents of mining companies thereafter obtained subject to the condition that this royalty be paid. It was necessary that we should have some such protection as this in the work, for corporations are liable to disincorporate, with disastrous effect upon the binding force of contracts. I found, by consultation with eminent lawyers, that it was absolutely necessary to have some such rights from the Government; and on presentation in Congress the delegation from California and Nevada agreed with me, and the bill which I desired became a law.

Necessity of a compulsory law.

Mr. Sunderland, in summing up the evidence which has been taken here, says that this law places some of the mining companies who did not sign the contract under the same obligations as those who did. He says he was a trustee at the time, and *he* did not sign a contract. That is precisely what we wanted to remedy. There were men in Nevada who were ambitious to play "dog in the manger." They did not want to do anything. They did not want to build the tunnel; but if it should be built they wanted to have the benefit of it, for if we should run it in it would drain the mines for them without expense. Mr. Sunderland was one of those men who would not sign this contract. They said—

"Oh, Sutro will build it, and when done it will drain our mines as well as others, and we shall get the benefit for nothing."

It was necessary to compel them to make a fair contribution, as I will show by a very familiar example. When a number of property owners on a street want to construct a sewer, and one man stays out and will take no part in the work, you must run the

sewer by him or it would be useless, and if you run it by him he derives all the advantages from it for nothing. It would be an annoying and insurmountable difficulty. Hence, we find in all city charters authority for provisions making it compulsory on the inhabitants to pay their proportion towards sewers. It is absolutely necessary that they should contribute to such works. We have practically the same principle and the same thing to contend with in mining ; and I say now, that the time will come when Congress will pass a general law. such as they had in Spain and Germany, to compel mining companies to pay in cases of this kind. Tunnels are necessary for mining ; and it is a great mistake for the Government to grant to any man an absolute title to a mine. The Government should reserve for itself such privileges as are required in the development of our mining interests, the right to make certain regulations. I do not know but that there is a clause in the present law partly covering this very point. There are such laws in Europe. I simply refer to these facts as significant from the principle embodied. It has been the experience in Mexico, in Spain, in Hungary, and in other countries where mining is prosecuted to a considerable extent, that miners never agree upon such questions, but that they take out all the ore that they can get any money from, and when the mines are gouged out it is impossible to find anx one to make a tunnel.

The undertaking presented at New York.

After the act of incorporation passed Congress, I thought this matter stood on a basis that was not susceptible of doubt, and proceeding directly to New York from Washington, I published a little pamphlet, in which I explained the advantages of the tunnel and the probable income that would be derived from it. The people vith whom I came in contact at that time (and they were some of the wealthiest and most intelligent of the residents of New York) took a great deal of interest in the tunnel, although somehow they regarded it as a vast undertaking, the accomplishment of which would be very remote. My assertions that the INCOME from operating would amount to SEVERAL MILLIONS PER ANNUM made them incredulous, and they argued that if that were true, I could easily raise the money in California. Many of the prominent merchants, bankers, and capitalits of New York, however, united in subscribing to a communication to me in which they promised that. is I would go back to the Pacific coast and raise three or four or five hundred thousand dollars, they would get $3,000,000 for me in the east. In the fall of 1866, therefore, I returned to California, and submitted the proposition to the mining companies. They were then in a pretty good condition. They were prosperous in business, and I found ready listeners when I demonstrated the importance of the tunnel to mining operations. I proposed to them to become interested in the tunnel. I showed them that they could come in at such a rate that it would be highly advantageous to them, for although they would be independent as mining concerns, they would still be owners in the tunnel enterprise, and it would return them, by way of profit, all they would have to pay to it in royalty for the ores removed when in bonanza ; while, on the other hand, when out of ore, without contributing a single dollar, the DIVIDENDS FROM THE TUNNEL would furnish them the means for prospecting. And they saw it, and recognized the fact. They began to subscribe, and in May, 1867, I think, I had $600,000 subscribed. A great many private people put down their names for $5,000, or $10,000, or $20,000, each, and I had a fair prospect of raising $1,000,000 in San Francisco, and the whole amount required, perhaps, in California.

Opposition by the Bank of California commenced.

Then it was that the Bank of California stepped in and concluded to break up the tunnel enterprise. But previous to that time I had again visited the Nevada Legislature, in February, 1867, I think, and asked the members to memorialize Congress. I told them that this was an important question, not only to the State of Nevada, but to the whole country ; and they responded to my wishes, urging Congress in the strongest terms to aid this work. They gave their reasons. They showed the politico-economical demands for it. They demonstrated what influence it would have on the payment of the national debt. I should very much like to quote from the memorial, but it would take me too long.

When the California Bank people observed the action the Legislature of Nevada had taken, with the conclusive logic of their address, they began to understand the probability that the Government would take some steps to assist in the construction of the tunnel. The Bank of California now came to the conclusion that it was a great enterprise, and, thinking we were about to get a subsidy from the United States, they set out to break it up. The Bank of California rules and runs that country. They owned almost everybody in it, and anybody that refuses to bend the knee to them they drive away. So they concluded to drive me away; and, in their unscrupulous manner of doing things, they began by making the mining companies repudiate their subscriptions. That was the first step they took. I had worked at this undertaking then for several years. I had induced some of my friends to invest some money in it : my means were limited. There were large expenses connected with the enterprise, in the way of making surveys and maps, traveling, arranging contracts, and employing lawyers. The Bank, as soon as they had concluded to repudiate, declared that we had not complied with the conditions of our contracts.

The question of contracts.

That was in June, 1867. The contracts were made in the year 1866, and we agreed in those contracts that we would raise a certain sum of money by the 1st of August, 1867. Now, understand, in May, 1867, three months before our time expired, they commenced their opposition, and said we had not complied with our contracts. I had, however, taken the precaution to receive an extension from the mining companies of another year, and consequently our contracts ran until August 1, 1868.

In order that the circumstances may be thoroughly comprehended, I will refer to a single company, the reports of which I have in my possession. It is the Savage Mining Company, of which Alpheus Bull, Esq , is president—a gentleman who is connected with a great many companies out there, and who is supposed to be a very good man, a first-rate man, a very pious man, in fact ; but in my opinion a great scamp, and a mere tool of the Bank of California. This is what he wrote in his official report on July 10, 1866, after the contracts had been made :

" The importance of affording drainage at a great depth, if it can possibly be obtained, cannot be too highly estimated. The Sutro Tunnel Company is the only party that proposes to undertake this important enterprise, and your trustees have entered into a contract with that company, for the purpose of effecting this great object. It is much to be desired that success may attend the effort, for it is, in my opinion, a work *upon which depends the future value and profitable working of the mines of the Comstock lode.* I recommend that this contract be ratified by the stockholders at their present meeting."

They did ratify it. That was in 1866. There was no opposition then. Now, let us see what he says—this same man—in 1867 ; and a very smooth-talking fellow he is, too. Recollect, now, these contracts did not expire till the 1st of August, 1867, with an extension of time made until August 1, 1868. There was an extension from this particular company, the Savage company, which I might as well read right here, now that I am about it, so that it may be put upon the record, and that there may be no question about the extension granted by that company at all :

" *Resolved,* That the president and secretary be, and are hereby instructed to enter into the following contract with the Sutro Tunnel Company :

" This agreement, made this seventh day of March, A. D. 1867, between the Savage Mining Company, a corporation duly organized under the laws of the State of California, and having its mine on the Comstock lode, in the State of Nevada, party of the first part, and the Sutro Tunnel Company, party of the second part :

" *Witnesseth,* That in consideration of one dollar in gold coin of the United States in hand paid to the said party of the first part by the said party of the second part, and of other good and valuable considerations, receipt whereof is hereby acknowledged, said party of the first part agrees and covenants that the said party of the second part shall have, and is

hereby granted, an extension of time for one year, from and after the period specified in articles first, third, fourth, and fifth, of a certain contract entered into between the parties hereto, on the thirtieth day of March, A. D. 1866."

[Recollect this gives an extension till the 1*st of August*, 1868.]

——"And it is hereby declared to be the intention of said grant of extension of time, that the operation and effect thereof shall be the same in all respects as if the 1st day of August, 1868, had been originally inserted in said contract, instead of the first day of August, 1867, wherever the date last mentioned is found therein.

"In testimony whereof the Savage Mining Company has caused these presents to be signed by the president and secretary, and its corporate seal to be hereto affixed, this seventh day of March, A. D. 1867.

"(Signed) ALPHEUS BULL, *Pres't.*

"E. B. HOLMES, *Sec'y Savage Mining Co.*"

Now let us see what this man said that same year, on the 18th of July, 1867, before the *original* contract expired :

"On the 26th of April, 1867, the board of trustees entered into an agreement with the Sutro Tunnel Company to subscribe $150,000 towards the construction of the proposed drain tunnel, upon two conditions : first, that the tunnel company were to procure *bona fide* subscriptions to the amount of $3,000,000; and, second, that the agreement should be submitted to this annual meeting and ratified by the stockholders. *The tunnel company have failed to fulfill the first condition.*"

He said we had failed to fulfill the condition that we were to get $3,000,000 in *bona fide* subscriptions, and our time had not yet expired. It was before the original contract expired, and a year and over before the extension expired.

Then he goes on to say :

"In addition to this, I consider there are grave reasons for doubting the policy of such an agreement on the part of this company. Suffice to say that I recommend the stockholders to refuse to give their approval to the agreement."

This Bull was the tool of a ring, which had then been formed by the Bank of California, and they thought they could explode the tunnel project. It was next to impossible to obtain redress. YOU COULD NOT DO ANYTHING IN ANY COURT OF LAW. It was reported that they could manage almost EVERY JUDGE in that part of the country, and that they had vast influence with all the newspapers. They thought they could ride rough-shod over my rights, but I did not let them do it, nor do I think I ever shall. I hold in my hand the paper, dated April 26, 1867, in which the Savage Company agreed to pay $150,000 to the tunnel company, yet that man had the assurance, three months later, to say we had not complied with the conditions of our contract, when we had a year and over to do it in.

Ring rascalities.

They put their heads together then, and said :

"Let us break up the Sutro Tunnel. We will get hold of it in a year or two anyhow; and in the meantime we will make the mining companies give the money subscribed to the tunnel company towards a railroad, which we will build and own, and that will kill Sutro, and he will not be able to get the money he wants."

As a result of what I have just stated, in April, 1868, this man Bull wrote in the official report of the company :

"I am so strongly impressed with the importance of the early construction of this railway, and the great benefits it would confer upon this company, that I earnestly recommend to the stockholders the repeal or amendment of the 4th article of the by-laws, so as to enable the in-coming board of trustees, if in their judgment they deem it advisable, to increase the subsidy of this company to the railway enterprise by an additional sum of fifty thousand dollars.

"With this road constructed and in operation, and with a *deep-drain tunnel which in a few years will be run*, and with a further saving in the reduction of ore, and also to increase the returns of the assay value of them from 65 per cent., the present standard, to 80 or 85 per cent., it is reasonable to believe, with all these advantages secured, we can transmit the danger of profits from silver mining at Virginia and Gold Hill to another generation."

Now, if that record will not damn any set of men, I would like to know what will. There is falsehood proven on them out of their own mouths.

To recapitulate, then, you find that on April 3, 1866, this man Bull, as president of the Savage Company, makes a contract with the Sutro Tunnel Company, and recommends its confirmation at the annual stockholders' meeting in July of that year, which was duly made.

On the 7th of March, 1867, following, he extends the time for the fulfillment of that contract until August 1, 1868. On the 26th of April, of that same year, (1867) the board of trustees of the Savage Company, through him, (Bull, their president) subscribed $150,000 to the Sutro Tunnel Company; and on the 18th of July, of that same year, he repudiates it all.

The California Bank ring saw the tunnel was going ahead, and while they wanted to break it up, they at the same time wanted to appropriate the money subscribed by the mining companies to themselves; and, in order to accomplish that, they got up this railroad enterprise.

Thus we find this same man Bull, in his next annual report in 1868, recommending the subscription of this identical sum of $150,000 to the railroad company, which he had repudiated the year before, as far as the tunnel company was concerned; and so confident was he that the tunnel project was killed for good, that he lets out their plans for the future, by saying *that a deep tunnel would be constructed before long*—of course meaning by the bank ring. He thought it was killed off; his indecent haste was so great that he called in the undertaker before the child was dead.

They want to appropriate aid from the Government to themselves.

They now turned around, and their persecution fairly commenced. They thought the tunnel was a good thing, having read my pamphlets. They had not had brains enough to see it in the beginning; but when they did see it, notwithstanding our rights, obtained from the United States Government, they thought they would break it up : after the Nevada Legislature had shown that the Government of the United States was interested in that enterprise more intimately than in any other in the country, and they, concluded to appropriate any aid from the federal Government to themselves. There you have the Bank of California. That is the way they do things out there. They thought in a few years I would be entirely used up, for I had no money to fight these people with, and they had millions, and were making millions out of these mines every year, FLEECING THE PEOPLE, as I shall show further on. I charge them with these things, and I am ready to prove them.

The Ring has no money invested in the railroad.

What does Mr. Sunderland say in his argument? He says this tunnel ought not to receive any aid from the Government, because it would ruin their railroad. Why, that is no objection. They got the money subscribed to themselves away from us, and with it built that railroad in opposition to the tunnel. They built it several years after I obtained my rights. They designed that it should break up the tunnel. They tried to make people believe that, when the railroad should be made, they could bring wood

on it so cheap, that they would be enabled to use it for pumping water out of the mines cheaper than it would run out by itself, and the people had no interest to differ from them. One of Mr. Sunderland's reasons against the tunnel is, that the railroad cost $3,000,000. The truth is, it only cost $1,500,000. According to his own statement, they got from the mining companies $800,000
And a gift from three counties of 575,000

Making a total of $1,375,000

So there is not much of their money in it.

The railroad may cost $3,000,000, if they build it to Reno, which would make it more than double its present length.

Mr. WALDRON. What is its present length?

Mr. SUTRO. Twenty-three miles from Virginia to Carson.

Now, I want to call attention to the fact, that more than one half of that railroad never will be injured at all. There are only ten miles that the tunnel could hurt, and I pretend to say that even that ten miles would not become entirely useless, and that Virginia City will continue to exist to a very considerable extent. He says these mining companies have paid $800,000 already, and they ought not to pay anything towards this tunnel. So far as I am concerned, I can neither see sense nor philosophy in that argument. He says, also, that if we had complied with our contract there would not have been any necessity for making this railroad. I have shown that these people have *prevented* us from complying with the contracts. Their own statements show it. They are full of discrepancies. They say they wanted us to complete the tunnel, and they threw all sorts of obstacles in our way.

No ruin to anything.

Mr. Sunderland next says that, if made, the tunnel will ruin Virginia City and Gold Hill. It has been stated here that the property there is worth $5,000,000 or, $6,000,000; but in any mining town everybody knows that mining will some day cease, particularly if operations continue to be carried on as they are in those mines, and property will be worth but very little. I think the tunnel will injure Virginia City and Gold Hill some, and I think it will injure ten miles of that railroad, but not much, for they can take up their rails and lay them to the mouth of the tunnel, and I prosphesy that a large city will spring into existence there. FIVE YEARS HENCE we shall see, perhaps, 50,000 people gathered near its mouth. Where they have two or three thousand miners employed now, they will then have 15,000; and the few thousand who will then remain at Virginia City will find plenty of employment in surface digging, for there will be more or less of mining operations conducted independent of the tunnel. It will take a long time to complete the ramifications from the tunnel—fifty years, I do not doubt. In the course of time we shall have in the argentiferous depths of those hills a hundred miles of tunnel—nay, two hundred. That which we seek to start to-day is the main artery, as it were. We go in four miles, and we will have tunnels branching from us in every direction; we will have a subterranean world, with avenues and rock-paved streets, an interminable traffic of cars, loaded with men, ore, and material. There will be a business in this underground world such as no one can have any conception of. The whole mountain will be explored, and everything connected with mining cheapened; and the objection that Virginia City and Gold Hill will be injured falls to the ground; it amounts to nothing.

Mr. Sunderland has also stated that the mills of the Carson river will be injured. There has been a great deal said here about making a large dam near the mouth of the tunnel; but we do not propose to make that dam. That is a dam proposed by the commissioners. They thought a dam would be a profitable investment, and that may be probably so; but in none of my pamphlets or books have I ever proposed making one. There is no necessity for it at all, as I will show when I reach that subject.

He has told us, furthermore, there will be $13,000,000 or $14,000,000 worth of property destroyed; that is to say, in property at Virginia City, the mills on the Carson, and this railroad; but I assert (the mills not being affected at all) that the loss will not exceed $1,000,000. And they are going to get a BENEFIT FROM THE TUNNEL of more than $10,000,000 a year. The yield of those mines will be so immense, that the people there cannot help growing rich from them. But Mr. Sunderland says every one will be bankrupted. The solution of the enigma is, the Bank of California is still bent upon breaking up our project, although we are now in a condition to push our work ahead. We have 300 or 400 men at work there at present, and we are going to construct that tunnel in spite of all their machinations.

Return to New York.

After I saw the power the Bank had out there, I concluded it would be of no use for me to go on there any longer to try to accomplish anything. I perceived that nearly everybody was shunning me, as long as it was patent that the Bank was against me, and I could not raise a cent. Men of business were all afraid of the institution. Most of them were more or less in want of accommodations, and have business ramifications which leave them at the mercy of a great, unscrupulous moneyed concern, either directly or indirectly, so that they may be broken and ruined any day, and no redress could be had; and when I would relate the facts people would not believe me, and I could get no satisfaction. I therefore concluded to return to New York, where the people had told me, "You go and raise three or four hundred thousand dollars." Upon my arrival I showed the documents, in which the mining companies and others had subscribed $600,000. I told them why they withdrew, but I could not explain that away; no matter what I might have said, they would not have believed it. I did not know what to do about this matter. I was not going to give it up, because I had said I would carry it out, and I was more determined than ever not to give it up under any circumstances. I thought to myself. "I have that indorsement from the Nevada Legislature; I will explain it to Congress, and submit it there, and let them know what this Bank of California is; what a set of scamps they are, and how they had acted towards me, in what bad faith; how they had perverted facts, and done everything to break up the enterprise; and I will submit this report of the Nevada Legislature, which, I repeat, is a most conclusive argument for Government aiding this work, and developing the vast mineral resources of the country."

Soon after I arrived at New York, I went in one day to Leese & Waller's, the agents of the Bank of California, though I knew they would be against me, and I found a placard posted up, saying that the Savage Company had repudiated the subscription to the tunnel company, and that the same was null and void. I was astonished to find in a banking office in New York a placard like that. Everybody from the Pacific coast would come in and read it, and would think I had committed some crime, or been guilty of some rascality. I saw what they were up to. They wanted to ruin me in New York, so I could get no money there.

Trip to Europe.

I concluded to go to Europe and try to raise some funds there, and at the same time post myself on mining. I was familiar with the great works on mining written by the scientific men in Europe, who had spent a lifetime in studying what had been experienced by others during centuries, and some of whom had traveled all over the world to get experience themselves, and I wanted to come in contact with those people and consult with them. I also wanted to visit the mines there myself, and study the continuance of mineral lodes in depth. I met such men as Von Beust, Sir Roderick Murchison, Von Cotta, Weissbach, Kerl, Rivot, Chevalier, and many others, the great scientific celebrities of the world. Their books are used in many schools and universities. They all indorsed this project. Some of their letters are published in my book, in which they compliment me on this magnificent undertaking: the greatest undertaking, they thought, going on in America. They indorsed it heartily, these men, thoroughly familiar with mining science.

Baron Richthofen, a celebrated geologist, had some time previous written a treatise about the geology of the Comstock lode, and in regard to this tunnel, which he recommended highly.

They saw the benefits of the tunnel at a glance. They understood its whole effect. They knew by their own experiences what it would be.

Capitalists alarmed

While I was in Europe I made some inquiries as to what I could do in the way of raising money there. I had a great many letters of introduction. I have read one from Mr. Ralston, which I never used. I had letters of introduction from many of the bankers and prominent people in California to leading people in London, Paris, Frankfort, Amsterdam, and Berlin. They thought the tunnel was a magnificent work; but a work of that kind is difficult to carry out, and still more difficult to raise money for. When a capitalist lends money, he wants to have the returns in hand before he lets it go. You know how difficult it is to do anything with such people; but the great obstacle in 1867, about the time the Exposition was going on in Paris, was a feeling all over Europe, in diplomatic and financial circles, that there was going to be a war between Prussia and France. Everybody knew it was coming, and the Bourse, which is the most sensitive barometer there is in the world, as far as money is concerned, felt it; and everybody in London told me that nothing could be done with American enterprises, either railroads or tunnels, or anything else, because war was bound to come. It did not come for two years afterwards, but it did come. At that time, however, it made the impression I am picturing. There was a perfect plethora of money in England. It was lending at one per cent. a year. "If that is so," said I to them, "you ought to be glad to make a good investment." "No," they replied, "the reason money is so low is because people are afraid to invest it in anything." They would rather let it lay in the banks. But when there is confidence they are ready to invest, and it comes up to four and five per cent. a year. That I did not know then, but I am quite sure I know it now

Efforts in the Fortieth Congress.

About the close of 1867 I returned to Washington. I think I left Liverpool on the 1st of December, 1867. I submitted the memorial of the Nevada Legislature to Congress, which was referred to the Committee on Mines and Mining, of which, at that time, Mr. Higby of California was chairman; the other members were Judge Woodward of Pennsylvania, Mr. Ashley of Nevada, J. Proctor Knott of Kentucky, M. C. Hunter of Indiana, Judge Ferris of New York, Mr. Mallory of Oregon, General Ashley of Ohio, Mr. Driggs of Michigan. They became deeply interested in this question; they often met twice a week, nearly every member present. They would meet at that same room where the Mining Committee meets now, every Monday or Wednesday, and I would talk to them about mining. I went into all the details of mining; explained it all to them; and they became deeply interested in it, so much so, that they were anxious for me to come before them and talk about everything connected with mining, independently of this tunnel question. I became acquainted with nearly all the members of the House, and I found a great many friends. After this lengthy examination of the subject they made an able report to the House, RECOMMENDING A LOAN OF $5,000,000 with a mortgage to the Government on all the property.

Impeachment of President Johnson.

Just then, when the committee was about to be called in the House, the impeachment of Andrew Johnson commenced, and that lasted for months. During that time nothing was done by Congress; they kept on with their meetings in the Mining Committee, but nothing was done in the House. I do truly believe, from my acquaintance with the opinions of members of that house, that that bill would have passed with a three-quarters or five-sixths vote could it only have been reached. There was Thad. Stevens; the old man felt a great interest in this question of getting down deeper into the bowels of the earth than had ever been reached before in the world. I explained it to the old man when he was sick, and sat by him many times when he was in bed. *He would have my book with him in bed*, and kept reading it. He said it was a magnificent project. I explained to him that during thousands of years man had never penetrated to a greater depth than 2,700 feet, and that we should go down a mile, and see what was there. Well, Thaddeus Stevens was ready to do anything for it; but Congress adjourned, and the old man died, and I went home again, after exhausting all my powers, almost despairing, and being under large expense, and that Bank of California quietly and secretly fighting me, being in telegraphic communication with their agents at Washington all the time. Many members of Congress promised that next winter they would certainly act in this matter. But I had accomplished nothing, and returned to California again. I remained a few months on that side, and then came back to Washington during the

Session of 1868-'69.

I remained here that winter. Grant had just been elected President, and you know, gentlemen, that at that session there was no disposition to undertake any legislation. It was a short one, and the whole time was occupied in passing appropriation bills. In fact, while Johnson was at the head of the administration there was no disposition to do anything until after Grant should come in, so I went back to California once more, and kept up communication with financial men all the time; but it did not succeed in doing anything. In the summer of 1869 the Ways and Means Committee paid a visit to California. I saw them in San Francisco. Mr. Hooper of Boston was the acting chairman: Mr. Schenck, the chairman, having gone over to Europe. I saw the importance of getting those gentlemen over to Virginia City. They were a very influential committee; a committee composed of gentlemen of the highest standing, and I urged them all personally in San Francisco to go over to Virginia City.

Visit of the ways and means Committee.

While they were in San Francisco of course they were more or less shown around by the Bank of California. They could not help that, because they are prominent people, and have ramifications among all the wealthy residents of the Pacific coast; in fact, they run things out there pretty much, and they entertained those gentlemen to some extent. I urged them very much to go to the mines on their return to the east. Well, they told me that they would certainly go; they promised me faithfully, every one of them, that they would; but the Bank people, who had heard, in the meantime, of the determination of the committee, said *they* would take them over. I told them "all right." It could not be helped. The Bank folks had them in charge. They for a long time endeavored to persuade them not to go, but when they saw they were determined upon making the trip, they concluded to take charge of the party. They came over to Virginia City, and they were the guests of Mr. Sharon; but they had promised to come and see me. I could not possibly call to see them, being, as they were, in the house of my enemies. But they did come to see me at the hotel. They had meanwhile visited some of the mines and seen that I was correct. They were such thoroughly intelligent gentlemen, that they perceived at once that I had been representing things as they existed; and the very fact that this Bank of California was trying to injure me and denounce me made them the more earnest in my favor. Mr. Sharon told Governor Blair (and there is no more thoroughly honorable man than Mr. Blair in the United States) that they wanted to drive me out of the country. They didn't want the tunnel built. I showed them the lay of the country, and they came away most fully convinced of the justice of my case and the outrageous character of the persecution to which I was subjected. I think it was a very fortunate circumstance that these gentlemen came over there, because I thought it would secure to me at last a hearing in Congress. They became entirely satisfied that what I had stated in regard to this undertaking was correct; they went down into those mines in that terrible heat, and came near fainting in the attempt. Mr. Hooper of Boston, Judge Kelley of Pennsylvania, Mr. Maynard of Tennessee, Judge Marshall of Illinois, Governor Blair of Michigan, and Mr Brooks of New York all went down into those mines. They saw it all; and if you ask any of those gentlemen about it, they will express but one opinion, every one of them.

Speech at Virginia City.

Well, I had now gone on some years in this affair. I was about getting crushed out by the bank. They were getting more and more bitter as the time passed, for they were annoyed at my persistence, which prevented them from starting the tunnel themselves. I had no chance to explain myself to the public. *They owned all the newspapers*, and they wouldn't print anything

about the tunnel either for pay or otherwise, and I made up my mind to get up in Virginia City, right in their midst, show up their rascalities, and explain the persecution they had instituted against me. I made a speech there, and that speech has been printed. In it I made an appeal to the workingmen, the men who have to delve and toil in those mines with the thermometer at 100° and 110°: men who become consumptive working in that heated and foul atmosphere. I explained it all to them, and appealed to them that if each one would put in $5 or $10 apiece we could go on with the work and carry it out. Why, there was the greatest enthusiasm about this matter. They would not go to bed that night, but stood about the streets talking it over. They thought they could carry it out at once. THE MINERS' UNION SUBSCRIBED $50,000 THEN. That helped to start the work going. These laboring miners did that. Of course they received AN INTEREST IN THE TUNNEL COMPANY, and they put in this trifling amount of money. I told them that if they would go in together and put in $5 a month apiece, they would own the tunnel in time and would own the mines. Mr. Sunderland has quoted me as saying that the Tunnel company would own the mines, but he has not stated in what connection the assertion was made. I did tell these people that they would and should own the mines. I told them to join together into a great co-operative association and build that tunnel. I told them they were spending $5 a month apiece for whiskey; I said, "Put it in the tunnel." That, for 3,000 miners, would have been $15,000 a month. If they would join together in this great work the politicians out there could not afford to oppose them. Well, they came and subscribed to the stock. They put in some money.

Mr. Sunderland has denounced that speech as the speech of a demagogue. He says I was inciting these men against the owners of these mines. These men were already bitter against this Bank of California; and I told them *not* to use any violence. I told them to go in and own this tunnel. Mr. Sunderland says that was the way to incite them to violence. I did not so understand it.

Start work on the Tunnel.

Well, we at last set to work on the 19th of October, 1869. We had raised some money over there and in California, and we started work. We had some festivities when we started. Many of the laboring men came down, and the officers of the laboring associations; but nobody from the Bank of California showed himself. They kept away at that time. We started the tunnel going on a small scale, for our means were limited; but we were acting under the rights given us by Congress.

We started in, and we simply made a beginning, it is true; but, having started, I thought we better *incorporate* as a company in San Francisco. This was in December, 1869. In the spring of 1870, while I was managing our financial affairs in California, raising more money to carry on the work, I received telegrams from Washington that I had better come on there right away; the bank had sent men there to get our franchise repealed.

So I rushed off. I went overland, and came to Washington. What did I find? Why, that Mr. Fitch, our Representative from Nevada, had introduced a bill to repeal the third section of the law of Congress which secured us our royalty. That was the new dodge of the Bank of California to break us up. They had hired newspapers to abuse me. They abused me in the worst possible manner, and warned people from coming in with me; but the miners all understood it. They are laboring miners, who work in the bowels of the earth, and go down 1,000 or 1,200 feet, and bring out the rock. These men understood it all. They put in their money, and when the bank saw that we were going ahead, and running this tunnel in, with the chances of cutting a vein any day, they became alarmed, and hurried on to Washington to get this law repealed.

The Bank attempts to repeal our Franchise.

Mr. Hillyer, a prominent lawyer of Nevada, had been sent on, and tried to get that law repealed. Perhaps some of you gentlemen recollect the fight that we had over that bill in the Fortieth Congress. Then my good fortune was that these gentlemen of the Ways and Means Committee had been over there and seen it all, and they stood by me. If they had not been over there, I should have been beaten. Mr. Blair stood up for me like a man. So did Judge Kelley. They all stood up for me. Those that did not make speeches went around and told the Representatives that this was a great outrage about to be perpetrated, and they protected my interests; and the members of the Mining Committee of that and the previous Congress all stood up for me. The Committee had made a unanimous report against the repeal, with the exception of Mr. Sargent. Judge Orange Ferris, a man as true as steel, was chairman, and had charge of the bill; he made a gallant fight, and was assisted by Mr. Strickland and all the other members of the Committee. Coming here in March, I had no time to see the new members of Congress, for the matter came up on the 17th of March, after I had just arrived here in Washington, and they had it all cooked up. They had had no bill printed, so that nobody should see what was being done. But I had it printed myself. I had some other documents printed which showed them up. Here is one of them. That bill was printed for the first time in this document. They had put that bill in writing, and being filed away amongst the Speaker's papers, it would have remained there until it passed, without my knowing anything about it, if my friends had not informed me, and if I had not come here The vote upon the measure was 124 to 42. General Banks doubtless recollects it. He voted against that bill to repeal our rights. After this bill had been defeated in Congress, I had to remain here to watch these people, because I knew they would try to steal in something or other, and get it through in an underhanded way. I asked to have a provision inserted in a general mining bill in the Senate, protecting my rights; and Judge Trumbull, of Illinois, stood up for our rights, and showed that this sort of thing ought not to be allowed. So they protected me in my rights again.

War between Prussia and France.

Then I commenced negotiations in Europe once more. I had a gentleman over there, an American (1), who had been out in Nevada, and he tried to raise this money in London. While he was doing that, he received a proposition from Paris and went over there, and made some preliminary arrangements to furnish us with 15,000,000 francs. That was in June, 1869. I was waiting for Congress to adjourn, and wanted to sail for Europe on the 20th of July. I had arranged to sail with Reverdy Johnson, of Baltimore, our former minister to England, who had agreed to go over to Europe to assist me. He was to sail with me on the 20th of July. He was at Baltimore, and I was here in Washington. I met him once in a while, and we talked the matter over. While he had been American minister to England he had made a great many friends over there, who I thought would probably assist me, not knowing for sure whether this 15,000,000 francs loan would be consummated. I thought I better have all the assistance I could get. I received letters from Reverdy Johnson while I was in correspondence with him on this subject, written in the early part of July, 1870, when this war cloud arose. He wrote me, about the 10th of July, it was no use to go over, and sure enough on the 15th of July, when I had reason to suppose I had secured all the money required, news came that war had broken out between France and Prussia. That broke up our negotiations. Not another word was said about it. You could not raise $5 for any enterprise whatever in Europe or America. After all this fight in Congress; after showing the injustice of the movement against me, after this great victory, and believing the road to success clear now, when I was almost certain of getting the money required, the war broke out and spoiled all. What was I to do? I couldn't raise one dollar in Europe or in the United States, so I returned.

Back to Nevada again.

We carried on our work all the time, struggling to get money to pay for it. *We were paying $4 a day to our miners, in 8 hours' shifts, that is $3 in money, and $1 in stock.* We were using powder, tools, and timber. We had to put up steam machinery, and I had to provide the funds or stop the work, and that I was determined should not happen. I tried to get along the best way I could, waiting the termination of that European war, intending to commence negotiations for money anew.

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(1) George T. Coulter.—J. A.

Of course that Paris matter was broken up forever as soon as that war commenced; but I thought I would probably be able in England, or other parts of Europe, to raise the money needed.

In December, 1870, I was back in Washington. I could do nothing in California, and I thought it probable I might induce Congress to do something in this matter. I had to come here to watch these people anyway, because I knew they would smuggle in something or other into a law to injure me if I did not. It was a most mortifying condition of affairs to me, to see some of the Representatives from the Pacific coast arrayed against me. They nearly all opposed me. They knew the Bank of California was the stronger, and so they helped the bank. I was the weaker, and they tried to kick me out. That is the way some of our Pacific coast politicians do. Right or wrong, you always find them on the strongest side, or the side which they expect will win. That is a fact, and I know it.

Appointment of a Commission.

I came back to Washington, I say, in December, 1870. It was another short session. I watched after these people. The agents of the bank kept up their misrepresentations, telling members that the tunnel was all a humbug; it was not necessary: that the mines had given out; that there was no need for a tunnel. In the spring of 1871, in order to settle this affair at last, after all these years of labor and fighting and attempts to drive me away from this undertaking, I asked for a commission to go out there. I said to gentlemen in the House and Senate, "Send a commission out there, and let them report upon this question, and let them see what there is of it, and whether I have been telling the truth or not;" and a bill to do this passed both branches, and the President signed it on the 4th of April of last year. I thought that would settle the question for good. Gentlemen of the highest character would be sent out to investigate this subject, and there would be no more caviling about it. It would stop the misrepresentations of the bank, because we would get these commissioners to go there and examine into all the facts. And the President appointed Major General H. G. Wright (and a more honorable gentleman never lived; a high-toned, excellent man); Major General John G. Foster; and Professor W. Newcomb (a gentleman of scientific attainments and straightforward, honorable character.) These commissioners saw as soon as they were appointed what there was about this; they saw that the Bank of California was against me. They saw there had been a great fight. They became rather timid. They did not know precisely what course to pursue. They saw they might get placed in a false position. They would not say much to me after I arrived out there to meet them. We were all very friendly, but the bank made desperate efforts to impress them their own way. I saw that they would be, to a large extent, under the guidance of these bank people, of the superintendents of the mines, some of whom are very much under the thumb of this bank, which regulates matters over there; and I perceived the danger that they might not get at the whole truth. They were very cautious, I must say, and careful, and I thought they would try to get at the facts; and no one who has listened to the testimony, particularly of General Wright or Professor Newcomb, can help thinking that they are men of the highest truth and character. They made straightforward answers to whatever questions were asked them.

Examination of the Mines by the Commissioners.

Well, these gentlemen remained some time over there in Nevada. They visited the mines under the guidance of the superintendents, and there are probably 200 miles of drifts in those mines. Why, I can take you in those mines and give you half a dozen views of the whole matter. You would not know the difference. You cannot see the water in the mines. There is a sump covered over, way down, that they pump out of. They might take you into comparatively cool drifts, where the ventilation is good; but these gentlemen found the thermometer was 110° in some places, notwithstanding.

They went down to the mouth of the tunnel several times. They went down there and saw it, and took great care in examining it; but, surrounded as they were by the satellites of the bank, who were straining every nerve to impress them against the tunnel, it is a marvel they did as well understand the matter. This man Sharon told them the first time he met them that he was going to break up this tunnel. During the examination, I asked General Wright whether he thought Mr. Sharon would set aside a law of Congress, and he said certainly he thought he would; he was going to break up the tunnel if he could. These bank people come here to run Congress. They would like to run this Government; and what I want to find out is, whether they are going to run this Government or whether Congress is. They have been running the legislature out there, I know. I do not think they can succeed quite as well here.

Another trip to Europe.

While these commissioners were out there, some gentlemen arrived there having connections in England—the same parties (1) that had been negotiating for me before over the water—and I showed them the whole of this affair again, and they investigated it and set out for Europe; and, while I was still in Nevada, I received dispatches from them, that probably they could arrange some financial matters for me over there. So I remained in Nevada until the 15th of August. The commission was still there at that time. I then started for New York, and on the 30th of August I sailed for Europe. I came to London, and in a few days arranged for $650,000 in gold coin. I remained there a few days, and went to Paris. That was this last year. I went to Paris, and then came right back to the United States, within thirty days from the time I had left New York; and from New York I proceeded directly to California and to Nevada. Having the means now to start the work on a large scale, we set all the shafts going, buying all the necessary machinery, and employing all the people that were necessary; and our whole works have been in full progress since last December. We are working day and night, and we have some 300 or 400 men employed. We are pushing the work ahead just as fast as we can; and I believe in two or three years the whole tunnel will be finished to the Comstock lode, provided we can secure the balance of the money. I will state that, since I came from Europe, we have made another arrangement over there for $800,000 more, so that we have now $1,450,000—a pretty good sum towards constructing that tunnel. It gives us a good start, and we do not owe a single dollar to anybody. If we get any loan through Congress, we can give the Government a clear first mortgage on all this vast property, entirely unincumbered, and with a million and a half of dollars already invested.

The Commissioners' Report.

After we had everything in running order out there, I started back to Washington last January, but, being delayed on the way by a snow blockade in the Rocky Mountains, I came here rather late. When I arrived here, I found that the commissioners had sent in their report to Congress; and here there was another disappointment. I had begun to think I was entirely out of the woods, that there would be no more chance for misrepresentation now that these gentlemen had been out there, who, I had been led to believe, would give the most complete and exhaustive statements in regard to the mines and tunnel. I was very much disappointed in regard to the lack of information about several important facts. Certainly a great many other points are stated by the commissioners which are conceded to be absolutely correct.

They state that the tunnel is entirely feasible. (Well, really nobody ever doubted that except the California Bank people, who said the tunnel could not be made.)

They give the cost of the work at $4,500,000 (2). They state that it could be completed in three or four years; by machinery in TWO YEARS AND A HALF.

They also state in their report that the yield of the Comstock mines heretofore had been $125,000,000, and that the present yield is $15,000,000 per annum. These latter facts they ascertained from the published reports and from the books. There is no question about those points. Nobody doubts them at all; they are patent to everybody that lives out there.

Then furthermore, they declare the Comstock lode to be a true fissure vein, reaching down into the earth indefinitely; that those mines will be worked as deep as mechanical means will allow; and that the amount of lowgrade ores in the lode, which cannot be taken out now on account of the expensive system of mining, is almost unlimited in extent; that that class of ores which

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(1) George T. Coulter, and Mr. Price.—J. A.
(2) This amount included the main tunnel, two lateral tunnels, and six deep shafts.—J. A.

is absolutely known to remain in the mines is immense. There is no theoretical conclusion about that. That ore they ascertained to exist, and conclude that it has almost no limit.

In what the Commissioners were misled.

They also state that there would be two important veins cut in running the tunnel in. On all these points the commissioners are perfectly clear. Those are all points which they could either ascertain from their own observation or from records and authentic statements which have been published. They are able engineers, and their calculation upon the cost is also as reliable as the nature of the work will allow. They evidently tried to arrive at a fair conclusion in that respect.

But now let us come to that part of the report which, from the manner it was arrived at, must prove very unsatisfactory indeed. When they came to the important points of drainage, transportation, and concentration, what did they do? Why, they addressed a note to the superintendents of those mines, the employés of the Bank of California, and asked them to answer certain questions. The important part of their report they proposed to base upon the evidence furnished by the superintendents. They were to tell them how much water there was in those mines. They were to tell them what facilities there were for working those mines, and what they thought of the Sutro tunnel; and they readily answered all these questions, and the commissioners, taking those reports, gave their figures on the basis furnished thereby. What reliance can be placed upon these deductions, when we know that most of the superintendents are the sworn enemies of the enterprise? The commissioners' comparative cost of working by means of the tunnel, and the way they are doing it now, is certainly erroneous. These people were all interested. Their profits depend upon carrying on these mining and milling operations as they are carried on now. They are all getting rich and fat on them at the expense of the stockholders. They are wealthy. They want to maintain the present state of things. There are manipulations going on there which it is not for the interest of the country to have go on. These commissioners are old army officers. They are not quite up to the rascalities of that bank ring out there; not quite up to these stock-jobbing operations. They took many things for granted which these men told them; took it all for gospel; thought it was all just so. They were not sharp enough for them at all. Reading their report, it must strike you that they rather tried not to offend either side. They did not make any positive report. They were deceived to some extent by those people out there. There is no question about that.

Examination of the Commissioners.

It appeared to me absolutely necessary, in order to arrive at all the facts and set matters right, to request the chairman of the Mining Committee to ask that these gentlemen be cited before the committee, and the Secretary of War was asked to have them ordered to Washington. So they arrived; they testified; and we have the result in 810 pages of printed matter, making the case as clear as you can make any case in the world. It shows everything. We did not leave a stone unturned to show up every point. Some of the gentlemen of the committee must have become tired and weary. It was rather an imposition to ask the members of the committee to come to twenty-five hearings, night after night, although it was probably somewhat interesting to them. There are a great many scientific facts brought out in the evidence. It is a valuable book on mining, a great deal more so than a great many other books printed by Congress; and that book is a complete confirmation of everything that I have said and written on the tunnel for the last eight years. Every statement I have made is borne out there by these witnesses.

The Testimony Makes a Conclusive Case.

I am glad to be able to submit the whole case upon this testimony, and, taking it altogether, it is a most conclusive argument upon the importance of that tunnel. I cannot ask members of Congress to read the whole of that volume, but I suppose they can some day look it over and draw their own conclusions. We went along, and the three commissioners were examined; and, by the by, they were all cross-examined by the attorney of the Bank of California, Mr. Sunderland, sent here from the Pacific coast to get out all the damaging facts he possibly could. He brought out everything he could, but he did not bring out one single fact that goes against the tunnel in that whole examination. After the commissioners had been examined, the bank party became alarmed. They saw that they were gone up; that they had no case; and Mr. Sunderland telegraphed to Nevada for two of those superintendents, who had made statements to the commissioners, to come on here, in order to set themselves right. He appealed to the committee, and told them that he must have those people here; that their veracity had been attacked. Well, we consented to it, and he insisted on examining six more witnesses; and we asked the same privilege. Then the committee passed a resolution that there should be six more witnesses examined on *each* side; that there should be no more than eight hearings; and that the whole testimony should be closed by the 1st of April. Well, the Bank of California sent Mr. Requa, the superintendent of the Chollar Potosi mine, and Mr. Batterman, and they were going to annihilate all the previous testimony. The first question I asked both of them was whether they were mining engineers. No; never had any experience on any mines excepting those on the Comstock lode. They were glad to get away from us. I asked them who sent them here, and they had to admit that they were sent by Mr. Sharon, the agent of the Bank of California; and they were glad to get off when we let them. They were in tight quarters. I had Mr. Requa tell how much profit the Chollar Potosi company had paid to the Union Mill and Mining Company (which is owned by the Bank of California) in one year, $376,000. He had to tell all about that. That is their kind of operations. They paid them over $1,000,000 for working in one single year, and the clear profit paid to the Bank of California out of that sum was $376,000.

Testimony of Professor Raymond and Mr. Luckhardt.

The committee thought, since there was more testimony to be heard on this subject, they had better cite Mr. Raymond (1), the United States Commissioner on Mines and Mining, and hear what he had to say on this question. Mr. Raymond came here at the request of the Secretary of the Treasury. Now, here we had a distinguished mining engineer before the committee, a man of intelligence, a student of Freiberg, a man who had visited nearly all the mines of Europe and in this country, who is president of the American Institute of Mining Engineers. Here was valuable testimony. The evidence in favor of the tunnel became stronger and stronger.

Then we examined Mr. Luckhardt, who was employed by the Bank of California for five years to make reports, so as to furnish them with secret information which the public could not get. Luckhardt's testimony is most conclusive, so is Mr. Raymond's. They are scientific men, and they showed the facts. It was about as complete an investigation, I believe, on a single subject, as has ever taken place in Congress, and I do hope that members will take time to read that book or devote a few hours to it.

There is an index attached, and part of it will be found quite interesting. The testimony of Luckhardt and Raymond is highly valuable. It will be looked upon as a valuable acquisition to mining literature. As I have said, that evidence is a complete confirmation of my statements on the subject of the tunnel during the last eight years. These Government witnesses have indorsed them. Your commissioners have set themselves right on every question by their testimony, and nearly everything has been finally established.

Correctness of Statements attacked.

Mr. Sunderland, in his argument, has tried to create the impression that some of MY statements are incorrect. He says I have stated in one of my pamphlets that the tunnel will cost $1,950,000; and that the revenue, during its construction, would be $500,000; consequently, all the money required would be $1,450,000. Now, gentlemen know how difficult it is to make an esti-

(1) Now editor of the *Engineering and Mining Journal* of New York.—J. A.

mate for a work of that kind. You have an illustration of that in the Hoosac tunnel, in Massachusetts. They thought it would only cost $2,000,000, but it has cost much more.

The $1,950,000 given in my pamphlet seven years ago was for **THE MAIN TUNNEL ONLY.**

BRANCHES (1) were not included in that; and those figures were given in gold. Then, Mr. Sunderland attacks the statement made by the committee of the 40th Congress. The committee stated that that tunnel would probably cost $8,000,000. These gentlemen in Congress had reports on the Hoosac tunnel and every other tunnel. They made the figures by drawing comparisons between the costs of hundreds of tunnels in Europe, and they arrived at the conclusion that the whole work, with the branches, would probably cost $8,000,000 in currency. We have now had a commission out there of very able engineers. There can be no question as to the high order of ability of both General Wright and General Foster as engineers. They have figured on it carefully, and they declare it will cost $4,500,000. Now, Mr. Sunderland and these bank people have searched for years to bring out something against me and that tunnel enterprise, and he has discovered that I said at one time the work would only cost about $2,000,000, and that is about the most damaging fact he can discover.

Total Yield of Mexican Mines.

He also says that I have stated in one of these books here that these mines on the Comstock produce nearly as much as the whole of Mexico, and that it has been shown in this examination that the mines of Mexico produce $29,000,000, while the Comstock produced only $18,000,000 in one year. That is another damaging fact, by which he wants to impeach my statements.

Now, the fact is, the mines of Mexico, between 1795 and 1810, when in their most prosperous condition, were yielding more money than they ever did at any one time before. They were yielding then, according to Humboldt, $22,000,000 a year. In 1810, when the revolution took place, it dropped down to $9,000,000 at once, and it went down as low as $4,000,000, I think, for a number of years. It rose from that to $15,000,000 or $16,000,000, until within the last few years, when, under the administration of Juarez, such an impetus was given to mining, that it came up last year, I believe, to $29,000,000. That is one of the damaging facts Mr. Sunderland brings out in all this amount of testimony against my statements, which I claim now are as nearly correct as they could have been given with the information in my possession at that time.

Then he gives us some more figures here. He says I state in that book it costs $4,000,000 a year to pump the water out of the Comstock. The commissioners say it costs $124,000. I admit that the former is a large figure. But, supposing all that district be opened up, as it should be, to a depth of 2,000 feet, and all the mines connected, it would nearly cost that amount to pump the water out, counting all the machinery which would be required, and the wear and tear, and considering the great cost of machinery at that time. Well, the commissioners put it at $124,000. That was taken from the statements of these superintendents, the agents of the Bank of California. I will say now that it costs over $1,000,000 at the present time, if you count the whole expense. If you get down 2,000 feet all along the lode, it will cost an enormous sum. They did not include any indirect cost in this report made to the Government, and that causes by far the greatest part of the cost of pumping.

Present Manner of Mining.

We have shown, by the testimony of every one of those gentlemen that these mines are worked for stock-jobbing. In order to explain myself, I will have to go into the mode of mining as it is carried on now. These mines are opened by means of shafts all along this lode. There is a shaft sunk down every 2,000 or 3,000 feet. There is large machinery on these shafts. The water is pumped out by means of great steam engines from the bottom of these shafts, and the ore is hoisted out to the surface, and then carried on this railroad we have spoken of to the mills. In working mines in that way they open one level only at a time. It is immensely difficult sometimes to go down a single hundred feet in these shafts, and open up a new level, because the water which you encounter and the difficulties of pumping are very great. But they do not want to open up more than one level at a time, because they want to keep the condition of the mine in the dark.

Stock-Jobbing Operations.

I want to explain now how these manipulations are carried on. These mining companies are joint-stock companies, and they are used for speculation by the people who buy the stock, which is scattered all over the country. It is held on the street by brokers, and they speculate and operate in these stocks for the sake of making money out of the rise, or they sell short to make money out of the decline. Consequently the mines are really owned by nobody. Some mines, when they get in very fine condition, are bought up and looked after by the owners; but, as a general thing, they are owned by nobody, as far as legitimate mining is concerned. Men dealing in these stocks do not find out whether the mines are worked to advantage or not.

The people engaged in this kind of operation are of a very speculative turn of mind. They invest $1,000 in a certain stock, and when they think they see another chance they pawn that stock and get $500 on it, and buy more, and then they pawn that again; and the Bank of California has started an agency at Virginia City, put a man in charge by the name of Sharon to manage the bank, and they play a very smart game there. They loan money on these shares. Everybody speculates, every miner, or chambermaid, or washerwoman; and as soon as they get into one stock they want to speculate in other stock, and they have to pawn it, and the Bank of California, a regular pawnbroker shop, loans money on them. They have men throughout these mines who keep them informed. In fact, they employed Mr. Luckhardt for five years to furnish a daily report about the condition of the mines on the Comstock.

How Trustees are Elected.

Now, mark what these people do. When the election comes off, all this stock stands in the name of the Bank of California, because when they loan money on the stock it is transferred to them or to one of their clerks. They do not place it in the name of the bank, which would make it responsible for debts, but have it transferred to the name of a clerk. Then, when the annual election comes, they vote all this pawned stock and get all the proxies they can, which gives them a majority, and so they put in a board of trustees of their own making. They do not own any stock in many of these mines, but they put in a board of trustees and manage the mine. They also loaned money to many of these mills, and afterwards foreclosed the loan, and got hold of them for one fifth of the price. Mills that cost $5,000,000, they obtained for less than $1,000,000. They had the management of the mines, and withheld the ore from the mills they wanted to break up. Thus they secured many of these mills, and they get $12 for every ton worked. It has been shown that they can reduce in their mills 1,000 tons a day, for which they get $12,000, including freight on the railroad, which they also own.

Profits of Milling.

We have the statement here of Mr. Requa, one of the bank's superintendents. He says milling costs them $4 50 per ton. Consequently they make—how much? Take $2 off for hauling, that leaves $10; $4 50 from $10 leaves $5 50, and on a thousand tons that makes $5,500 a day clear profit. That is what they make—$5,500 a day clear profit. Now, by having control of a mine, it becomes very easy for them to manage to get out as much ore as possible; they do not care whether the mine makes any money or not, because they do not own the mine; they own the mills, and consequently they take out as much ore from these mines as they can, and if they have no ore, they take out bed rock; take out the country rock, that contains nothing at all, and send it to the mills and mix a little ore with it, and crush it, and get $12 a ton for working that ore, and not enough comes out to pay for hauling sometimes. They make $5,500 a day profit, and it runs the mines behind. If they take out $6 a ton, and the mill gets $12, the mining company loses $6 on every ton. What is the result? When there is no money in the treasury and the mine runs behind, the trustees, who are the agents of the bank, put on an assessment, and, if not paid, the stock is sold out.

(1) For Branches (or lateral tunnels) the money was advanced without interest by the Mining Companies, to be repaid by half the royalty.—J. A.

Hiding Ore.

But the great game is this : By having control of a mine, they know exactly what is going on in that mine. If it contain but a little good ore, or low-grade ore, it sells at a low rate. They keep watching it ; these superintendents have men in the mine watching ; and when a body of ore is struck, they are shut up at once. Nobody is allowed to go in there except the few men who are digging. They put a bulkhead across. They just prospect it sufficiently to find out what it amounts to, and keep the men down there digging away, and treating them in splendid manner (they give them champagne). The moment they find there is ore down there, they telegraph in cipher to San Francisco, as it is shown in the testimony, and buy up the stock. And sometimes this ring goes to work and breaks the stock down first before they buy ; they start the miners on drifts in the wrong direction, and say there has been a cave, for fear anything would leak out about it. They take out poor ore, or bed rock, which necessitates assessments, and thus run the stock down. Everybody that owns stock is assessed, and they get it all in the end. We had a striking instance of this kind in one of the mines lately. The stock went down to $2 a share, when gradually the ring got all the stock concentrated in their hands—got it away from the poor fellows who were paying assessments—and then they made known the existence of this ore, which they had concealed, and the stock went up to an immense figure. They are in a perfect fever just now. The stocks on the Comstock lode have gone up from $3,000,000 to $50,000,000 in a year. Just now the ring owns largely in stocks, and they will realize millions out of them, and they have managed such operations about twice a year since the mines were discovered. Most of the outsiders who buy these stocks get swindled in the end, and I suppose the people out there think that is smart !

Certain Ruin to Outsiders.

When the stocks get about the highest the ring steps out, and a crash takes place, which ruins all the others. And such a crash is impending now ; it will certainly come before many months. It will appear very clearly to you that this California Bank ring, or the Union Mill and Mining Company (it is all one affair, as has been shown here) are managing things over there just to suit themselves ; and the head manipulators are Ralston, the head of the Bank of California at San Francisco, and Sharon, their agent at Virginia City. They get the profits out of the mines and mills, and I tell you, gentlemen, they are making millions out of it. I do not wonder that Mr. Ralston can live in a princely residence, and keep 60 horses for his own use. The ring is filching it out of the people. They do not get it honestly.

These people are opposed to the tunnel, and why ? If that tunnel goes in, it fully opens the mines ; there will be no hiding ; from the surface down through the whole length of that lode a new basis of operations will be made ; and it will lay open every mine down to the tunnel level—yes, every mine will be laid open. They cannot hide the ore any longer. That is one of the causes of opposition.

The second reason is, it will be a great deal cheaper to get the ore out through the tunnel ; and we shall erect reduction works at the mouth, which can work so much cheaper and get more out, which will stop the whole of their milling operations. Now, to defeat this project they misrepresent it. They say the tunnel is useless. The truth is, it is going to stop these rascally operations, and that is why they oppose it. These mines lose $8,000,000 a year in the yield as operations are at present carried on. We can get out $6,000,000 of that at the mouth of the tunnel that they do not get out at all now ; that is wasted now. I have tried to explain the management of these mines and some of the manipulations of the Union Mill and Mining Company, and hope I have made myself understood.

Percentage Extracted from Ores.

There is another most important item, which these people profit by in working these ores, and that is the tailings. We have shown, by nearly every one of the witnesses, that they only get out 65 per cent. from the ore ; consequently 35 per cent. remains in the tailings. The mines yield $15,000,000 a year in bullion ; that would therefore bring the assay value of the ore to $23,000,000, showing a loss of $8,000,000 a year in tailings. The Union Mill and Mining Company will some day sell those tailings, and get millions for them, besides the millions they get for milling the ores. That is what they get, and they get it out of the people who own the stock. That is a perquisite of the mills.

Now, Mr. Sunderland has tried to show by two of his own men, Requa and Batterman, who were sent to testify by the Bank of California, that they take out as much as 88 per cent. Every other witness has stated that they cannot take out over 65 per cent. One of the witnesses has said that they may get 72 per cent. Mr. Luckhardt, who was the most competent witness we had here, who was five years on the lode, and whose business it was to go down into these mines and examine them, and who is a scientific and educated gentleman and a mining engineer, says you cannot take out more than 65 per cent., because the other 35 per cent. are rebellious metal. You cannot take out the other 35 per cent. by amalgamation. I will add my own testimony to that. I have made repeated experiments for months and months—sat up all night in order to follow out some experiments—to find out what could be obtained by raw amalgamation, and I give my testimony that you cannot get out more than 65 per cent. I have analyzed what remains, and it is a combination of silver and lead, copper and zinc, and other base metals, and sometimes of sulphur. You might run it in the pans for a year, and could not get out any more by amalgamation. That portion of the ore has to be worked by smelting or chlorodizing-roasting, and I would not care if they would send one hundred witnesses here to swear to the contrary. I know there must be some mistake about their assays or results somewhere ; you cannot do it. Mr. Luckhardt most emphatically declares so.

Mr. Raymond states that all the reports received by him give the yield at 65 per cent. It is no use for Mr. Sunderland or the Bank of California people to say that they get 88 per cent. ; it is not so.

Sixty-Five per cent. the Average yield.

These rebellious ores are called in Mexico " bronzes. " Every Mexican knows that will not amalgamate at all. You cannot do it. It cannot be done. Mr. Requa has told us they get out 92 per cent. He says that the Union Mills and Mining Company paid reclamations to his company. He has told us that they have paid during the last year $16,400 in reclamations. In order to explain that, I will state that these mill companies have to guarantee 65 per cent. It is only a nominal guarantee. It does not amount to anything, because they take out just what they please. There is but one crowd managing it, but he says they paid this reclamation. The Chollar company took out last year $3,440,023, and they had paid to them a reclamation of $16,400. He wants to make out that they received more than 65 per cent., because the Union Mill Company paid that reclamation. Now, gentlemen, I will tell you how much that amounts to—one half of one per cent., what they received back in reclamations, and he wants to make us believe that is a fact worth mentioning. Sixty-five per cent. were guaranteed, and they paid back one half of one per cent. or $16,400 on this immense sum of $3,500,000 nearly. That is to make the people believe they pay reclamations. It is all a humbug. I do not believe they get out 60 per cent.—only make the people believe they get out 65 per cent. and over.

Now, see what Mr. Luckhardt says about this. It is a very important point :

" Q. So they do not seem to get out more than 65 per cent. of the assay value of the ore which is returned to the mines ? "

" A. I think a great many people there say that they get out 80 or 85 per cent., and I think, in some instances, judging from the character of the ore found, that it is possible to get out that, but not as a general thing, because the ores of the Comstock are of such a nature that any man who knows the nature of the ores, and knows how to judge of ores, would consider it to be a preposterous idea to get out 80 or 85 per cent. by crude amalgamation. By treating

these ores by previous processes and that as to amalgamation, you may get from 80 to 85 per cent., but I think from 60 to 65 per cent. is the general point of these ores."

In the cross-examination Mr. Sunderland tried to confuse him on that point, and wanted to know what experience Lockhardt had in milling. Now, Lockhardt is the most practically experienced man we have had here as a witness, and there is probably no man living at the present day who knows so much about these mines as he does. He was asked:

"Q. Then if that is the only experience you have had of milling, and the only opportunity you have had of knowing what percentage is saved from the assay value of the Comstock ores, how can you state that they only saved from 60 to 65 per cent.?"

"A. Because I have so frequently assayed those ores, and I know their character so well. I know what will amalgamate and what will not amalgamate—that is just as good proof to me as if I had stayed and worked there for twenty years."

He is a scientific man. He knows you cannot amalgamate it, and that is exactly what I mean. That disposes, I think, of that part of Mr. Sunderland's argument.

Water the great Obstacle in Mining

Now, in regard to drainage, which is a very important point, these people have seriously tried to show that there is no water in these mines. They have tried to impress that on the people and have hired the newspapers to say there is no water in the mines and consequently, as they argued, there would be no necessity for the tunnel. They have been that for years. They have been trying to every effort to break up the enterprise, by saying there is no water in the Comstock. We have shown that to be false both by the testimony of every witness, and false by their own statements. Water is the great obstacle in mining. It has really ruined some of these mining companies. After the tunnel is run in, and these shafts which now exist are connected with it by bore-holes, such as you have for oil wells in Pennsylvania, the water will run out, entirely run down that. They have stated there are dry mines as tight as a bottle, and that the water will all stay in the bore-hole will not it run out. They have been denying my statements for years. I meant inform the whole world. I have told them all they have got to do is to make a bore-hole, and repeated it a thousand times, and at last we have it on record to show, that they will keep on denying it notwithstanding. That is their style of warfare.

Now, as to the Ophir mine is concerned, I put to General Wright some questions in regard to the quantity of water in that mine. We have the statement here of the former superintendent of the Ophir mine, who says that "it is a dry country, and there is no water in it—everybody knows it," and I have shown here, by that same man's official statements, as they are called, how much water they took out of that mine every day. I asked General Wright how much they were pumping from that mine every twenty-four hours according to the same superintendent's statement. He said the weight of the water was 290 tons, of 2,000 pounds each, per day, and that they were only hoisting 12 tons of rock. They pumped that out, which is pretty nearly equal to flying it out. Then I asked him as to the average per day for the year commencing with June, 1870, and ending June 1, 1871.

The average, he said, was 1½ inches.

"How much," I asked, "would that be in tons in 24 hours?"

He answered:

"The average is seven hundred and eighty-two tons of water per day in that one mine."

There is a—782 tons of water out of that mine every day for a year. Let me read that statement, furnished by the superintendent of Mr. Day. These people feel outraged because their statements are doubted here; they say we are a lot of rascals, but they are in with the bank, and that confirms them. This is the statement:

"I hold that there is no more certain event of the future than that the water will decrease in the Comstock as the mines grow deeper, the opinions of Mr. Simon, BARON RICHTHOFEN, or any other scientific gentleman to the contrary notwithstanding, and the idea of running a tunnel four miles or more in length, at an outlay of millions of dollars, to tap what is almost certain to be very nearly a dry fissure, seems to me to partake of the absurd to the extreme. This is a dry country, and all who have lived here *had* upon it know it."

General Wright testifies that the average for last year was 782 tons of water per day out of that one mine—that diamond mine of which that man was speaking, and of which he was the superintendent. Then I asked General Wright—

"Did you make any figures on the maximum quantity for the year, as stated by Mr. Day, which is 18 inches?"

And General Wright answered:

"Eighteen inches gives the weight for 24 hours at 1,318 tons."

That they had to pump out per day to get out 12 tons of rock. That was shown by the testimony. Is that Gould and Curry mine we says there was more water than that.

Then, if we take the aggregate of all the mines, it amounts to at least three or four thousand tons for every 24 hours that they are pumping out; and then it must be recollected that these gentlemen were over there at the end of three years of intense drought. The whole country had dried up. The springs had dried up. There was no water there comparatively.

Indirect Cost of Pumping

Now, gentlemen, the actual expense of pumping water is but a mere trifle compared with the indirect cost, which is perfectly fearful, while you are sinking a shaft, and are hampered with water, you cannot progress with your work; while you are shut off for months sometimes, and cannot get out, and the expenses of the whole concern, the office, employees, &c., are going on all the time. The indirect expense of working is probably three or four times as much as the direct cost. The Comstock witnesses did not bring that into account in their report at all. It is difficult to get any data on the indirect cost. I think Mr. Lockhardt was asked a question about the cost of raising water. He said:

"Where there is much water there is always a great retardation of the work."

"Q. Isn't that a greater expense than the actual pumping?"

"A. Oh, to be sure. The pumping itself is the least of the expense of getting rid of the water."

Now, as far as pumping water from great depth is concerned, I have telegrams in my pocket which came within the last two or three days, some two very eminent men, and also the Savage. Mr. Sunderland has stated here in his speech that two-thirds of the Comstock lode is as dry as this floor; and that is what they have been trying to show for years, and I say it is not true. There is one despatch dated April 14, the other April 15. One says:

"In Savage they had to stop working on shaft between 1,400 and 1,500 feet levels, on account of large volume of water. Ophir also much troubled with water."

Dispatch dated 15th says :

"Expenses for pumping in the Ophir for March, $5,800. This is official statement made by the superintendent."

Their own Letters Condemn them.

That is on the 15th of this month. Now, I want to call the attention of the committee for a few moments to some extracts that we have been fortunate enough to get hold of, and at the same time I will reply to the motion of Mr. Sunderland to have that testimony stricken out. They have been denying for years that there is any water in those mines, and that has been their great fight all along; and when we offered this testimony—the extracts from letters written by this same man Day whose statement I have just read, saying that "this is a dry country, and everybody that looks upon it knows it"—when we have that man's own letters, written to his superior officers in San Francisco from day to day, making reports of the mine, and have got these extracts sworn to by the present superintendant of that mine, he made a motion to have that testimony ruled out. Of course he would like to have that done. We have caught them in the act now. They have been telling untruths, and here we have the proofs on them. We have got them on the record. Here are this man's letters, which he wrote to the president of the company from day to day, stating how much water there is in the mine and how much they are troubled with water, and that very motion of Mr. Sunderland's is pending before this committee to have that testimony ruled out. On what grounds does he want it ruled out? On some petifogging law quibble. He says they are "copies of copies." We ought to produce the originals. Why, gentlemen, they are copies made from the press copybook. They are copies of letters sent to San Francisco, and the present superintendent copies them and swears they are correct. The other evidence introduced here in the commissioners' report is not sworn to in any shape whatever. They want to get the truth ruled out by a legal quibble. Mr. Sunderland must think that Congress is a petty justice's court, where prisoners known to be guilty are often rescued on insignificant technicalities of the law. This is the best testimony we have got. It convicts them fully of a most outrageous perversion of facts. It also shows the difficulties of pumping, the breaking down of machinery, and the consequent enormous indirect expense. I will read a few extracts from that man's letters. He writes on June 10, 1868 :

"Depth of shaft, 287 feet. I assumed full charge on Monday. Work at shaft is progressing as well as can be expected under the circumstances. We are raising a large amount of water, more than the pump we are using has capacity for."

Then, in the same letter, he says :

"If no accident happens to the pumping machinery within the next two days, the tank and screw drift, with the necessary machinery, will be complete to station the first plunge pump, and the shaft deep enough to swing the sinking pump for the second lift. That being done, I see no reason why we should not make good progress in sinking."

June 14, he writes :

"Friday we were occupied in making preparations for putting in two 12-inch pumps."

Gentlemen, I wish to call your attention particularly to the fact that these extracts will show what the enormous indirect cost consists of, independent of pumping. The commissioners only gave the presumed direct cost of pumping water out.

On October 16, 1867, this same man (Day) writes :

"Large amount of water coming in from face of main drift, which is boarded up at present to prevent a run."

October 21 :

"Large flow of water."

October 22, 1869 :

"The pump rod, to lower pumps, broke at 8 o'clock last evening, and has not yet been brought to the surface. *One man killed* this morning by the cable breaking in the pump shaft. It is difficult to form an estimate of the delay it will occasion us."

They do not count the life of a laboring miner. They count the dollars and cents only.

October 24 :

"Our present flow of water seems to be entirely independent of the water in the old mine, which I regard as indicating the existence of a body of ore to the north, and separate from that worked in the old mine."

November 6 :

"The water is still rising in the shaft, and now stands about 270 feet from the bottom."

Mind, now, it says 270 feet of water in the shaft. They had to get out 270 feet of water in order to get to work again. Then he goes on to say, in the same letter :

"We are now taking water from the shaft at the rate of 20,000 gallons per hour; and when the machinery (hoisting) is ready for use, we will increase that amount 10,000 gallons. It is impossible, at this time, to form an intelligent opinion of the time that will be required to free the drifts of water."

November 10 :

"*Our misfortunes, in connection with the strike of water in Ophir, seem to follow us up.* Last Sunday morning, when our second or lower plunger was covered about 60 feet with the rising flood, it very suddenly ceased to throw water, and is now about 200 feet under water. [That's a dry country!] We are building a 500-gallon tank to use with the new engine. With that, and the one now in use of 300 gallons, will enable us to raise to the surface 16,000 *gallons per hour*. As I stated in my last, it is impossible at this time to form an intelligent opinion of the time necessary to clear the drifts of water. Of one thing I am convinced, however : that *our consumption of wood* for the next six months *will be perfectly frightful*."

Recollect, gentlemen, if that tunnel had been made, every drop of that water could have been run out, and under our contracts they only have to pay us $2 a ton for the ore taken out; and they have had no ore in that mine for five years; yet they protest against that tunnel. We have shown that 8/9 of the mines have no ore; 8/9 get the benefit of the tunnel for nothing; only 1/9 will have to contribute to it.

December 18 :

" Our progress in lowering the water is quite satisfactory. To-day it stands in the new shalft about 220 feet deep."

December 19 :

" *We are bending all our energies in our endeavors to free the new works from water,* and gaining gradually upon it."

It does look like a dry country—"we have now 220 feet of water in the shaft !"

December 22 :

We are working all our machinery to utmost capacity, consequently *accidents are liable to occur,* but will guard against them as much as possible."

December 24 :

" I assure you *there will be no let up,* and I believe few *drawbacks,* until we have the water well under control."

December 25 :

"We have just succeeded in completing repairs to the lower plunger or middle pump, and made connection with the lower pump."

December 27 :

" Yesterday evening we had the water at a lower point than at any previous time ; but immediatelly after *the first earthquake* shock, it came up in the shaft some 25 or 30 feet in a short time."

December 28 :

" We have the water down 25 feet below lower plunge pump, which leaves 175 feet in shaft."

December 31 :

" Am pleased to be able to report to you a decided gain upon the water to-day—155 *feet from the bottom ;* but *it is very stubborn, and requires heavy and persistent work.* I have no doubts as to the result."

January 5, 1870 :

" We are crowding the work steadily in the shaft to-day. We have only 130 feet of water"

January 10 :

" Since my last, we *had the misfortune to lose one of our large tanks.*"

January 12 :

" We do not succeed in getting the water in the shaft any lower than heretofore reported."

January 17 :

" *We are still making vigorous battle with the water,* and driving it slowly down. We have it now within 110 feet of the bottom."

January 25 :

" Owing to some delay in repairing tanks, the water is considerably up in the shaft."

January 28 :

" *We do not make rapid progress ;* but we do gain, and hold all that we get, which is encouraging, and shows that it is entirely a question of time as to when the new works will be cleared of water."

January 31 :

" Mount Davidson has been shaking again, and consequently the Ophir water has increased, as usual in such cases. Sunday morning there was only 74 feet of water in shaft, and going down nicely. To-day there is 95 feet, notwithstanding pumping and bailing has been going on without any interruption."

February 3 :

" There was some delay last night, both with pump and large tank, consequently the water in shaft is higher to-day than usual."

February 12 :

" Water at No. 1 at 600-foot station. *It sticks to that point with great tenacity ;* but we are bound to get the best of it in time. We will be compelled to stop our large tank about three days next week, to refill the large cogwheel."

February 14 :

" *This water is a monster elephant,* but I know we can handle him ; but it won't do to relax in the least the grip we have on it. In No. 1 the water is about 150 feet. In old mine it has lowered in last 48 hours 3 feet."

Now, what reliance do you place on that man? He told the commissioners it was a dry country, and they believed him.

February 15 :

" Water in No. 1, 160 feet ; filling wheel will be completed this evening."

March 4 :

" *We are repairing again* to-day at shaft No. 1. About one half the cogs in large wheel gave out last night."

You see these are the indirect costs. These people have not mentioned them at all. They were working there four years in order to get down a few hundred feet in a shaft.

March 5 :

"The repairs at shaft No. 1, spoken of yesterday, are completed, and machinery moving as usual : 150 feet of water in shaft No. 1."

March 18 :

"Water in No. 1, 65 feet."

March 21 :

"The bucket to our lower pump has been failing for the last few days. If we succeed in replacing with a newly-dressed bucket, there will be but little delay in pumping. Should we not succeed in this, an extra pump, which we have in readness, will have to be lowered, which will cause at most only a few days delay."

March 22 :

"At No. 1 we have not succeeded in drawing bucket from lower pump ; have commenced active preparations for putting in extra pumps."

March 24 :

"There is to-day 100 feet of water in No. 1 ; lower pumps working to about half capacity."

March 26 :

"Water to-day in No. 1 is about 80 feet ; will commence filling large cogwheel this evening. You can assure Ophir stockholders that we are doing all in our power to reduce this water. Delays to some extent are unavoidable. There is no time when there is not a large stream of water coming to the surface at Ophir shaft, and it must tell before long."

March 31 :

"Have just commenced lowering pump. Putting this pump in place is attended with so many difficulties, that it is impossible to say, with much certainty, the length of time that will be required, but probably about three days."

April 1 :

"At shaft No. 1 we are still engaged in putting down pump ; getting along very well ; foundation to pump-bob is becoming a little shaky, and it may be necessary to overhaul it before making our next great effort at lowering the water."

April 9 :

"At shaft No. 1 we have repaired old pump, and it is doing good work."

April 11 :

"At shaft No. 1 the drift is free of water. And right here allow me most sincerely to tender you, as president of the Ophir S. M. Co., and your associate trustees, my heartfelt thanks for the generous co-operations with which you have sustained me in this fight ; for truly a battle it has been, of no ordinary magnitude, and I feel that a great weight of anxiety and responsibility has been removed."

Recollect, now, after pumping for years to get into that drift—doing nothing but pumping—he comes at last and says :

"No. 1 is free from water."

He thought he had got rid of the water, but he had not. He congratulated them too soon. That was April 11th.

On May 7th he writes :

"Increase of water referred to yesterday still continues, but I have no fears of being flooded."

May 16 :

"Water about as last reported."

May 26 :

"Quite an increase of water."

June 3 :

"Last night, about midnight, *the irons on one end of our pitman rod broke,* which renders our pumps useless until repaired, which will not be before to-morrow morning. Consequently, our drifts are filling with water, but I do not apprehend any serious damage to them."

June 4 :

"Started pump this morning at 7 o'clock."

June 9 :

"The pump is laid up to-day, owing to the breaking of some of the upper gearing last night."

June 10 :

"At shaft No. 1 *pumping machinery is very much demoralized.* The very best that we can do, it will probably require ten or twelve days before we can regain the ends of our drifts and resume work. I regret this very much, but do not see any way by which this accident could have been foreseen or avoided."

June 14 :

"Depth of water, 150 feet."

They had it dry before ; now it was filling up again.

June 16 :

"Water is 175 feet in depth, and slowly rising."

June 20 :

"Pump started last evening at 7 o'clock. The water is now lowered to a depth of 60 feet."

They put in so many more pumps that they could master the water at last.

On September 2 he says :

"The water is wholly under control of the pump."

February 16 :

"In the upraising there is a slight increase of water to-day, somewhat impeding progress of work."

Then there is more trouble of water ; but I will read no more. This man Day, I must remark, was discharged last December, because the bank ring lost control of the mine, and a new set of trustees came in ; this is the first time we have been enabled to get at any of the mining company's books. The new superintendent came in January, and he writes on January 2, 1872, this year :

"There are three 12-inch plunger pumps, and one of 10 inches in service, and the fifth one, 10 inches, is under construction, and will be ready to put in place as soon as needed. *We are raising* 146,000 *gallons of water per twenty-four hours.*"

That disposes of this water question. I will comment on it no further. The commissioners went out there to find out all about these mines, and the quantity of water ; and the difficulties of pumping it out, direct and indirect, was one of the principal questions to be decided. But they took the superintendent's statements, who told them that it is a dry country and they made their report, based upon the statements furnished by these people.

Ventilation.

I now come to the subject of ventilation, and a very important one it is in mining. I cannot go into the evidence at length which was taken. It would carry me too far altogether. We have asked every witness we had here about ventilation, and I believe they—particularly Newcomb, RAYMOND, and Luckhardt—spoke about the great importance of ventilation in mines, and what it accomplishes. In this connection I will read a short extract, one from the latest number of the "AMERICAN ENGINEERING AND MINING JOURNAL," which came to-day, in which are a few remarks in regard to the commissioners' report. It says :

"Our view is confirmed by an exceedingly elaborate and able treatise on the Comstock vein, its mines, and their intersection by the proposed deep tunnel, which has recently appeared in the *Beirg-geist* of Cologne, one of the leading mining journals of the world. The author is Bergrath Burkart, who writes with all the published works on the subject before him, and draws conclusions quite favorable to the tunnel. His criticisms upon the report of the United States commission are rather severe ; he blames the commission for accepting without question the statements of the mine superintendents, and shows that on the subject of mine ventilation these gentlemen have made, and the commission has too confidingly adopted, *assertions wholly unfounded in the theory or practice of mining.* The particular proposition which Burkart attacks is unfortunately repeated several times in the Report and Appendix, viz : that when the tunnel is done, and the shafts connected with it, the air-current will go straight up the shafts ; and that it will be impracticable to carry air to the headings where men are at work. *Of course this statement is ridiculous; and we are mortified that a foreign critic should find it in an official and professional document.* The superintendents of the Comstock mines are in many instances agreeable gentlemen, good business men, and excellent mechanics and engineers so far as their experience goes. It is their boast that none of them are "scientific theorists ;" and no doubt their practical skill is better than mere theory for many purposes. But what they lack, though it may surprise them to hear it, is not theory, but practice. If they had had any real practical experience in deep mining and the natural ventilation of mines, they would not have talked such rubbish to the commission on that subject. When a man pronounces his particular locality to be "an anomaly ;" says you can't tell which way the air will go in his mine ; that a deep tunnel connecting the bottom of his mine with daylight, on a level two thousand feet below the top, will give him no better ventilation than a level connecting the bottoms of two shafts, or that the natural air-current developed by such an enormous difference in altitude and temperature cannot be conducted wherever it is wanted throughout the mine, he is really propounding the wildest kind of theory, and what he needs is practice."

The opinion given here is by a gentlemen who must be seventy years of age, for he is mentioned in Ward's book on Mexico, published in 1827, as a leading mining engineer in Mexico, and who is now looked upon as one of the great authorities of Germany on mining questions. This gentleman has taken a great interest in the mines of the Comstock lode and a deep tunnel, and he has managed to obtain all the documents and all the publications on the subject. I do really believe that he is more familiar today with that lode and all its general details than almost any other man, even out in that country where these mines are located. About the great improvement in ventilation of the mines there can be no question : after the tunnel is completed, connecting with shafts from the surface 2,000 feet in depth, there will be a draft of air through there that will bring a welcome supply to the miners who are compelled to delve and labor for eight or ten hours every day in that stagnant atmosphere. We have reports here of a commission appointed by the English Parliament, and it is stated that forty-two per cent. of the miners die of miners' consumption ; that they don't find it out that they are becoming consumptive until they leave the mines. They feel unwell, and go off somewhere to die. It is highly desirable to have the thorough ventilation which this tunnel will make possible.

In regard to the saving of timbers, we find, according to the testimony, there are 16,000,000 feet of lumber used in that lode every year. It will last two or three years with poor ventilation, and probably ten years on the average with good ventilation. That would make an annual saving of several hundred thousand dollars.

Temperature.

The question of temperature is one of the great questions connected with ventilation. According to the statements we have here, the heat in these mines is from 85° to 110°, and nobody will pretend to say that men can do as much work in a temperature of even 95° as they can at 70°. To put the lowest estimate upon it, twenty-five per cent. in the cost of labor will be saved by having those mines thoroughly ventilated, over what can be done with the present system of ventilation, where the thermometer rises to 100° and 110°; and when they go down deeper it will be still higher. One of the most important things this tunnel will do is this : it will allow the sinking of a great number of shafts, which, as I have shown in this question of drainage, can only be made under the present system at an enomous expense. They were about four years and a half sinking the shaft of the Ophir mine,

whereas if they had had a bore-hole down to the tunnel they could have put their shaft down in a year. If they had these shafts all in, they could connect them at each level, and have the most perfect system of ventilation possible. We have the testimony of these witnesses about the reduction of temperature on completion of the tunnel and the sinking of these shafts. General Foster states, on page 72, some facts in relation to this. I asked him :

"Should you think they could do two-thirds as much work with this high temperature as with the lower one ?
"A. I don't think they would do half as much."

On page 173 we have Dr. Newcomb's testimony. I asked him :

"Would you consider that the working capacity of the men employed in the mines below the 1,000-foot level would be increased twenty-five per cent ?"
"A. To what other depth ?
"Q. To the tunnel level ; from 1,000 to 2,000 feet ?
"A. Well, I should think it would. The lower a level the greater the heat, and the more difficult to work in the mines."

The other witnesses were asked a great number of questions on this subject, and they all agreed in their answers.

General Banks. There is no question about that.

Mr. Sutro. These gentlemen have disputed this all the time. They make the wildest kind of arguments against it. Mr. Raymond and Mr. Luckhardt, and in fact all, agree there will be an increase of twenty-five per cent. in the capacity of labor. All these shafts could be made, and connections therefrom, with the greatest facility. It becomes a very important question, when you employ 3,000 miners at $4 each a day, ($12,000 a day.) If you can save twenty-five per cent. of that sum, or $3,000 a day, you save over $1,000,000 a year. That the commissioners have not taken into account at all.

Transportation.

I now come to transportation. Instead of hoisting out this ore as it is done now, to the top of the ground, then carrying it on this railroad down to the mills, the ore may be lowered down at a cost of ten cents a ton, and it can be carried out on the railroad for from eight to ten cents a ton for the whole distance by stationary engines at the mouth of the tunnel, running cars in and out by means of a wire rope—ten cents a ton delivered at the mills at the mouth of the tunnel.

General Banks. Wat does it cost now ?

Mr. Sutro. It costs, according to the statements of these superintendents——

General Banks. What do you think it costs ?

Mr. Sutro. It cost $1 a ton to raise it out, and waste rock cost $2, or $3, or $4 a ton, in mines where no ore is taken out. It cost more a ton to take out a small quantity than it does to take a large quantity. Then it costs from $1 50 to $2 50 a ton to transport it to the mills on the river. Where we propose to erect the mills it will cost for transportation, according to the statements of several of the witnesses, twenty-five cents a ton. I put it at about ten cents a ton. According to these statements, hoisting and transportation now cost from $2 to $2 50 a ton, but I know it certainly costs from $3 to $4. General Dodge states it costs, on ordinary railroads 1 1/4 cents per ton a mile. We have to transport it over four or five miles of tunnel. At five miles the cost would be 6 1/4 cents. Call it 10 cents to carry it out, and 5 cents to lower it to the cars. One of the commissioners gives the cost at about 35 cents. It is a known fact, in all the reports we have here on mines in Europe, that stationary engines, with wires ropes attached, for a distance of from one to five miles, are the cheapest appliances that can be used. It is cheaper than rolling stock and locomotives on railroads. It certainly would not cost any more than 25 cents under any circumstances. What probably costs them now from $3 to $4 a ton, if the whole truth were known, and the saving made, would amount to at least $3,000 a day ; that is, on the present yield, without counting any increased production.

Reduction of Ores.

I will now refer to the reduction of these ores. At present they are taken to little mills all along these ravines, and down the river to mills which are scattered all over the country, where they have no chance for concentrating independently of the difficulties from lack of water, which by themselves would be insurmountable. They lose 35 per cent., as I have shown already by testimony which cannot be questioned, although these people try to show that they have taken out as high as 90 per cent. It is not correct, and is shown to be impossible.

An important question connected with this tunnel and with the whole mining interest is the concentration of the ores. We all know that the metallic parts contained in this ore are of greater specific gravity than the vein matter itself, whether it be limestone, or quartz, or any other gangue ; and consequently, by allowing the pulp after it is reduced, to pass over concentrating tables, of which there is a great variety in use in Europe, we can get rid, in ten tons of ore, of nine tons of waste, and retain one ton, which contains almost the whole value.

Large Additional Yield.

Now, I mean to say this, provided there are concentrating works at the mouth of the tunnel, for the erection of which extraordinary facilities exist, that, after the ore is amalgamated, these tailings may be run over concentrating tables, and nine tons out of ten got rid of, which leaves us one ton to be reduced ; we can put that one ton in a chloridizing Stetefeldt furnace, and get 90 per cent. out of those concentrations. In fact, the figures given by Mr. Luckhardt, which are quite conclusive, show that, instead of getting 65 per cent. out of these ores, we can get out 90 per cent., making full allowance for loss in concentration. Consequently, we save 25 per cent above the present yield. The value of the ore extracted is $23,000,000 per annum, which yields $15,000,000 ; the additional 25 per cent. would amount to $5,750,000. We get that out in addition to what is taken out now. The reason why we can do that, and they cannot at their present mills, is this : In order to establish those concentrating works, you have to have, in the first place, *an abundance of water, which the tunnel will furnish*, and a large space adapted to that purpose. At the mouth of the tunnel there have hundreds of acres of the very best land, sloping down towards the river gradually—a gradual decline of 155 feet, in a distance of a mile and a half. It gives the natural slope necessary to make these concentrating works self-acting. The pulp, by means of the water, will pass from one machine to another, and it does not require the labor of hands at all hardly. It does its own work and the worthless part of the rock, the nine tons out of ten, passes off, and we retain only one; and in that manner we can get some 90 per cent. out of the ore.

Great Water Power Without any Dam.

The commissioners have stated in their report, that there must be a large dam constructed on the river, in order to secure a water power. We have shown most conclusively, by several of the witnesses, that we can reduce the ore at $5 a ton, and that the whole difference between water and steam power is only $1 on a ton, and the saving, by means of concentration and otherwise, will probably average $15. General Wright states that we would get 86,445 horse power, if a large dam be constructed on the river; but if there is no dam at all constructed, if the water is taken out at that same point, we get 100 feet of fall at the mouth of the tunnel ; and if reservoirs are provided in the mountains, to store up the water accumulated from rain and winter snows, to be used

in summer time, we would still get 33,900 horse power, as deduced from the above figures, at the mouth of the tunnel; and all that is required at the present rate of production is 2,000 horse power; that is, to reduce 1,000 tons a day. That is all that is required; yet we would get 33,900 horse power, even if we make no dam at all.

Mr. Sunderland says the commissioners state that if that dam is not made the tunnel will be of no value. That statement is founded upon the reports furnished by the superintendents, which we have already shown are not correct. We have the testimony of two of the witnesses, both Raymond and Luckhardt, that the tunnel itself will furnish water for all these concentrating purposes. You will acquire a large quantity of water by draining six or seven or eight square miles of country, at a depth under Mount Davidson of 3,600 feet. It will be quite sufficient for all concentrating operations. That water is absolutely necessary, and they cannot obtain it in the cañons, while at the present mills on the river they cannot secure the proper fall, where they have only 8 or 10 feet of slope, and are crowded in near the banks of the river. We have at the mouth of the tunnel 155 feet of fall. We can erect the largest kind of concentrating works, as I have stated, and concentrating can be done there, according to Mr. Luckhardt's statement, at 75 cents a ton.

Mr. Waldron. Then your theory is, that the tunnel will furnish all the water required for concentrating, but not for power?

Mr. Sutro. Yes, sir, We mean to use coal or wood for generating power, and we can mill for $5 a ton by steam power where they are paying $12 a ton now. We can get coal there by constructing 35 miles of railroad, at $12 a ton. So that all the elaborate testimony in regard to that dam, and the removal of the present mills on the river, amounts to nothing. We do not want any dam. We do not require any dam there. We do not interfere with other people's mills. We do not have any interference in any shape at all. *We can pay 65 per cent. for the ore at the mine, without any charge for milling whatever;* for we can go to work and take out 90 per cent. of the ore at the mouth of the tunnel, using the water it furnishes, and driving our mills by steam power. That would make a clear saving to the mining companies of $12 on each ton, or $12,000 per day, or $4,380,000 per annum, and, deducting the only expense they would be under—that is, the royalty—it would still leave them a clear saving of $3,680,000 per year.

Exploration of the Country.

Another important consideration in the construction of the tunnel is the exploration of the country through which it will pass. It will cut a number of lodes nearly at right angles before it reaches the Comstock Lode, as we find it stated in the commissioners' report. That these veins of ore are of considerable value they do not doubt. They contain immenses masses of low-grade ores, which can be reduced at the mouth of the tunnel with advantage and profit, and will largely increase the production of bullion in that section. As a question of science, as a question of geology, of cutting at that depth through a section of country composed of volcanic rocks of three different geological ages, it is of the highest value. Our knowledge of geology is largely derived from superficial observations, and is to a great extent suppositious. Here we make an exact examination of the geological formation of that mountain, going through it at right angles, which will be of immense value geologically, and contribute largely to our knowledge on the subject.

Water-pressure Engines.

To recur now to the value of this tunnel, as far as mining is concerned, it gives us a new basis of operations 2,000 feet below the present surface of much greater advantage than exists commencing at the original surface. In this connection I must refer to this question of water again, and will state that this very water that is found to exist in those mines, which gives so much trouble to get out, can be collected within the mines; and since a large amount of that occurs within the first 500 or 600 feet from the surface, it can be carried down in pipes to the tunnel level, 1,000 or 1,500 feet below the point where it is collected, which gives a column of water capable of operating a vast amount of machinery by means of water-pressure or other hydraulic engines. We have the evidence here that we get 1,400 horse power, and in that way we get power to go down below the tunnel level at least 2,000 feet, or 4,000 feet from the surface.

We will reach greater depth than has ever been reached before.

We turn this very water, which is now of immense trouble in the mines, to account; we utilize it to go down below the tunnel level. Now, what do we attain? Why, we get down below the tunnel level 2,000 or 3,000 feet. It allows us to go down into the bowels of the earth 5,000 feet, while the deepest hole dug by man since the world has existed is only 2,700 feet deep; and it remains for the youngest nation on earth to contribute more to science and geology, by giving opportunities of studying the formation of mineral veins at greater depth, than has ever been accomplished by any other nation in the world. We reach down a mile into the earth. If we show practically what scientific men theoretically know to be the case, that these veins reach down indefinitely, it will give a value to our mineral lands which we cannot compute. It is beyond all calculation, the increased value it will give to our mineral domain. It will give confidence to people. It will give confidence in mining operations. I have already shown what an immense saving the tunnel will make in all these different manipulations of mining. It will make a great highway under the mountain. It we be a little underground world by itself in the course of time. We are asking aid from the Government now to help us make four miles of that tunnel, which will result in 200 miles of tunnel. After that four miles is completed, we have a main artery, as it were, and we can spread out and drift under that mountain, and open up new avenues of exploration everywhere. We shall have streets and avenues beneath that mountain. We may employ 20,000 people then. All the capital required will be bone and sinew.

General Banks. Is that on one lode?

Mr. Sutro. On that and others. There will be ramifications of drifts on that lode and also on other lodes under that mountain, and it will take hundreds of miles of streets and avenues to reach them all.

General Banks. You will want no further aid from the Government at all?

Mr. Sutro. No further aid at all.

General Banks. Why will you not want more aid?

Mr. Sutro. Because, after we make that four miles of tunnel we reach the mines, and have an income then that will make it self-sustaining, and we can run drifts in every direction, and the loan we ask from the Government will be repaid in two or three years after the main tunnel is completed. We shall continue running these tunnels and drifts all under that mountain in every direction. There can be no question about it.

Immense Saving to the Mining Companies.

The royalty these people will pay, which is a perfect trifle to them compared to the benefits they derive, will yield us a large revenue. We have shown here in this testimony, by several of the witnesses, that not over 1/6 (one witness said only 1/9) of the mines are producing, and only 1/9, therefore, will have to pay any royalty to the tunnel. The others will get the benefit for nothing, though their mines will be drained and ventilated. We do not ask a single cent of contribution to the tunnel company until a mine finds ore and is able to pay. Probably only 1/10 of what they save will be contributed to the tunnel company; and that is under the contracts and under the law of Congress. Here is where the commissioners have made their mistake. They give a statement of the cost, which does not make a fair comparison; they have left out the most important facts. What they do state they give upon the basis of what these superintendents furnish them; the people who are the enemies of this great work, and whose only aim is to break it up if they can, and get hold of it themselves. Now, I want to give a few figures to show the difference between the statements which the commissioners have furnished and those which have been elicited by the testimony. I will

will show how entirely wrong and incomplete these statements are. According to the commissioners' estimate it would cost about as much to work by the tunnel, and according to one of their calculations would cost more, than what it costs by the present method. I have taken their figures as far as given, for it is quite unnecessary to question them in this calculation. I have simply added what they left out; what they did not bring into account; and they are the most important items. But these figures will tell their own story; they cannot be doubted, for they are based upon the testimony furnished by the commissioners themselves upon their examination, and that of other witnesses.

I will now read this comparative statement, which most conclusively shows an annual saving by the mining companies of $9,891,151, after paying the royalty and all other expenses.

Fair Comparative Statement.

Cost of working by the present method. Taking the commissioner's figures, and adding what they left out.

Hoisting 365,600 tons of pay ore, at 0,51,19 cents	$187,077
Transportation of same to mills, at $1,50	548,400
Pumping for last year (commissioners' estimate)	124,674
Hoisting and lowering 3,000 miners, at 8 cents each way, 16 cents	175,000
To this should be added :	
Hoisting 365,000 tons *waste rock*, at $2	731,200
Indirect cost of pumping at the 16 mines now being worked, including wear of machinery and additions, $3,000 per month	456,000
Wages of 3,000 miners, at $4 per day, $12,000	4,380,000
Consumption of timber, 16,000,000 feet per annum, $25	400,000
Cost of milling 365,000 tons of ore, $10,50	3,838,800
Loss by present method of reduction, 35 per cent. on $23,000,000, assay value	8,050,000
Total	$18,891,151

Cost of working by the Sutro Tunnel. Taking the commissioners' figures, and adding what they left out.

Lowering 365,600 tons pay ore, at 10 cents	$36,560
Transportation of same, average of 5 miles, 50 cents	182,800
Transportation of 3,000 miners, at 20 cents, $600 per day	210,000
Royalty on 365,000 tons, at $2	731,000
To this should be added :	
Lowering 365,600 tons *waste*, at 10 cents	36,560
Transportation of the same, 5 miles, 50 cents	182,800
Wages 2,250 miners, at $4=$9,000 per day	3,285,000
(N. B. 2,250 miners, with the thermometer at 70°, will do as much work as 3,000 at 90°. Capacity increased 25 per cent.)	
Consumption of timber per annum, 8,000,000 feet, $25, (8,000,000 saved by good ventilation	$200,000
Cost of *milling* at mouth of tunnel 365,600 tons, at $5	1,828,000
Loss at mouth of tunnel in reducing and concentrating ores, 10 per cent. on $23,000,000. (Assay value.)	1,300,000
Cost of concentrating, 365,600, at 75 cent	274,200
Cost of roasting and working concentrations, 36,560 tons, at $8	232,480
	$9,499,400
Annual saving by means of the tunnel, after paying royalty and all other expenses	9,391,751
	$18,891,151

That is a fair comparison. The commissioners say it will cost more to work by the proposed method. What I have stated here is taken from the testimony. That is clear; and when the people out there say they are fighting against this royalty to the tunnel company, they do not give their true motives, for they still save over $9,000,000 per annum. It is the Bank of California that opposes us, because if we get mills at the mouth of the tunnel they cannot get the tailings they keep now, and these enormous charges for reducing the ore. It is the Bank of California and its satellites, I repeat, who are fighting this great enterprise. Any one who examines my statement will see I am correct; common sense will teach us that it is so.

The Sutro Tunnel Company.

But I will drop these figures now, and leave them to the examination of thinking men. Mr. Sunderland has made a motion to admit Mr. Foster's statement in relation to the Sutro Tunnel Company. We never objected to its admission at all. General Foster came back here at the request of the attorney of the Bank of California from New York voluntarily, without any orders from the Secretary of War, or any of his superior officers, to testify a second time; and he had a paper which he would not show to anybody. We learned it was a statement in relation to the Sutro Tunnel Company. It is stated that our stock is unassessable. I have said in the course of my remarks that these mining companies levy assessment on their stock, and make the holders pay up for what is spent in milling and other manipulations. We did not want to start out on any such basis. *We wanted to protect the miners and laboring men who put their money in the company.* We put our stock at $10 a share, so that these men should have a chance to buy it; and made it unassessable, so they *should not be "froze out,"* as this game is called. The attorney of the Bank of California finds fault with this arrangement, which is intended to protect all the stockholders. Then he states that $7,000,000 of stock have already been disposed of whereas only $5,000,000 remained last year in the hands of the company. Why, gentlemen, this California Bank has been fighting us for six years in this enterprise. We had to dispose of our stock at a sacrifice. It is the history of every large undertaking. It is the history of every large railroad company that a part of its stock has gone at low prices in order to interest capitalists. We have gone through immense difficulties, and in getting the first money we had to sell at a very low price; yet Mr. Sunderland makes out that this is a very bad condition of affairs. I think it is quite a natural condition of affairs. *I have stated already that we have $1,450,000 secured, and we do not owe a single dollar.* I think that is doing very well indeed. We are giving this to the Government as security. Our means were limited. These men would not permit us to raise money. They wanted to break us up. Now they turn round and charge us with poverty; after keeping us as poor as it was in their power to keep us, they charge us with not having spent a sufficient amount of money heretofore. But we are spending a great deal of money now, as is shown by a report published a few days ago by me as superintendent of the works. It is a report embracing the three months just past, and gives the figures as taken from the books of the company.

The Report says.

You will perceive by the annexed statements that the expenditures were—

For the month of December, 1871	$28,821 04
For the month of January, 1872	43,517 40
For the month of February, 1872	50,490 41
Or a total for the three months of	$122,828 85

This does not include any expenditures incurred by the San Francisco office.

In December last work was commenced on all four of our shafts, and the same has been prosecuted since with due energy by day and night. On the 24th of this month the progress at the different points was as follows :

Length of tunnel	2,801 feet.
Depth of shaft No. 1	120 "
Depth of shaft No. 2	282 "
Depth of shaft No. 3	147 "
Depth of shaft No. 4	120 "

The slow progress of shaft No. 1 and 4 is accounted for by the fact that a considerable quantity of water has been encountered, and that the pumping machinery was delayed on the road. Shaft No. 2, in which the quantity of water was small, has been progressing steadily ever since its first commencement.

In December last a contract was made with the Diamond Drill Company for the use of diamond drills in all portions of the works. One of these drills has arrived at the tunnel, and experiments are being made for the purpose of ascertaining the best mode of employing it. With these drills it is confidently expected that the monthly advance in the tunnel will be 250 feet, and that of the shafts 150 feet. We may therefore look for a more rapid progress as soon as these are in full operation, which we hope will be the case by June next.

Temporary steam engines and buildings have been erected on all the shafts; also extra boilers and steam pumps have been placed in operation, all of sufficient capacity to reach a depth of 500 to 800 feet. After that depth is reached machinery of much larger dimensions will be required, both for hoisting and pumping.

We have received estimates for the hoisting machinery from four of the machine works at San Francisco, the lowest bid amounting to $65,000. The cost of transportation and erection, including buildings, will probably amount to a similar sum.

No specifications for large pumping machinery have as yet been submitted. They will be made out shortly, and bids, based upon them, invited from the foundries. A rough estimate of its cost, and placing the same in running order, may be given at $200,000. All this heavy machinery should be contracted for within the next sixty days, since it will require at least four months to construct and erect the same, it being highly desirable for the rapid prosecution of the work that no delay should occur on that account.

The necessary tools for a first-class machine shop at the mouth of the tunnel—such as lathes, planing machines, drills, &c.—have arrived, and a suitable building and steam engine have been erected.

We have almost completed an excellent wagon road, commencing at the mouth of the tunnel, leading over the first summit, at an elevation of 1,350 feet, to shaft No. 2, situated in a ravine just beyond. From that point an old road to Virginia City has been placed in repair.

The poles for a telegraph line from Dayton to the mouth of the tunnel, and from thence to the four shafts and Virginia City, have been placed in position, and instruments at seven different stations will be in operation before long.

We have erected commodious boarding and lodging houses for the accommodation of the men at each of the four shafts ; also a new one of much larger dimensions at the mouth of the tunnel.

The number of men employed was :

During December	159 men.
During January	231 "
During February	326 "

I have since received the accounts for March. The expenses for that month were $47,589 94, and the progress at the different points was as follows :

Length of tunnel	2,852 feet.
Depth of shaft No. 1	165 "
" " " " 2	384 "
" " " " 3	210 "
" " " " 4	200 "

Mr. Sunderland has informed us here that the Bank of California is not a stock-jobbing concern ; but that the Sutro Tunnel Company is, because we have not made our shares assessable. I do not see the philosophy of that. If you have stock that is assessable, you can break it down or put it up, according to the assessments which are levied. If they are unassessable, you cannot do that ; they have a certain given value. Mr. Sunderland, furthermore, goes on to say that we started seven years ago, when these contracts were made six years ago ; and that they refused to put in any money in New York and California for a long time. Why, that is nothing to be wondered at. The machinations of the Bank of California were going on all this time, and they determined to stop us ; and now they have the assurance to charge us with not raising money any sooner, when it is a known fact they repudiated all subscriptions.

Historical Opposition to great Improvements.

It is, however, a historical fact, that there has been opposition to all kinds of improvements either by the ignorant, the envious, or by those who were interested in keeping up the old state of affairs, since the world began. If you even look back to the great mechanical improvements that have been made, the introduction of the spinning jenny, and even that of sewing machines, you will find there was opposition. Every sewing girl in the country opposed sewing machines. They thought their occupation would be gone. We find many curious thing related in history. Take Galileo, *when he announced the discovery of a new planet. They scouted the idea. There had only been seven planets known before that, and the whole of Italy stood up in perfect horror. They preached*

against him from the pulpit everywhere, and the argument used against his discovery was, that it was impossible that there should be more than seven planets, because there were no more than seven days in a week, and no more than seven openings in a man's skull. That is the kind of argument they used, and some as unreasonable have been used against many new ideas. Look at the arguments used against the first railroad in England. They were of the most extraordinary and inreasonable kind. It makes us smile to read them now. There are many points resembling this fight against the tunnel. If you substitute the Bank of California for the Duke of Bridgewater, and Mr. Sharon for Mr. Bradshaw, you have a perfecly parallel case. But I will read :

[Here Mr. Sutro read from the "Lives of Engineers," by Sam Smiles, vol. III, the chapter headed "The Liverpool and Manchester Railway," which included an account of the Parliamentary contest on the Liverpool and Manchester Bill, March 21, 1825].

M. Sutro then contained his argument :

The Bank of California and the Duke of Bridgewater.

We might search through history and not find a more parallel case than the one I have just quoted. As I have stated, all we have to do is so subsitute the Bank of California for the Duke of Bridgewater and the name of Sharon for that of Bradshaw, and the parallel is perfect. The Duke of Bridgewater, with an army of attorneys, went to Parliament and presented his budget of objections. We find the Bank of California present here in Congress with theirs. Look at the testimony which has been taken in this case, and see how absurd some of the objections raised must appear to you ; in ten years from now the parties making them will be ashamed of ever having occupied such a position.

They have come here to prove that it is cheaper to pump out water from a depth of 2,000 feet than to let it flow out by itself. They would have you believe that white is black, or that water will flow up hill of its own accord.

It took years of persistent efforts to succeed with the first railroad against the machinations of its enemies. I have been for years trying to sustain myself against the unscrupulous influence of the Bank of California, and am proud to say we are now on the full road to success, thanks to the noble-hearted friends I have found in and out of Congress. Mr. Stephenson found one sterling, unflinching friend to stand by him, and that was Mr. Joseph Sandars, of Liverpool; and I want to pay tribute right here to a noble-hearted, far-seeing, generous, and true man, who has stood by me in the darkest hours of my trials, who has counselled and assisted me at all times, who has appreciated the magnitude and importance of the work to which I have devoted myself. THAT MAN'S NAME IS JOSEPH AARON, a resident of San Francisco.

I have recited the objections which were raised against the first railroad not quite fifty years ago. That road was built, notwithstanding the bitter and persistent opposition of the Duke of Bridgewater, who considered himself aggrieved and injured in his canal property should the road be constructed. And what was the result? The developments and industry created by the new facilities for traffic were so great, that the canal property became more valuable than ever, and the example set immediately created a perfect furore for building railroads, not only in England, but all over the world. To the success of this first railroad was due the construction of railroads in every country on the globe. The public, which is sceptical and unbelieving, only needed one single practical illustration of success. The moment that was achieved opposition to railroads ceased to exist.

A thousand Tunnels in this country.

Let this *one* tunnel be constructed, and the magnificent results become known which will flow from it, it will result in the construction of a thousand more by private enterprise throughout our vast mining regions. A new system of mining and reduction will be inaugurated, and the necessary capital will flow in that direction without any further effort. The magnificent inheritance of our mineral domain will commence to be fully appreciated ; that great treasure chest, which Providence has given us, will be unlocked ; the nation will be enriched ; trade and traffic will receive an impetus unknown heretofore ; and our national debt will sink into insignificance compared to the wealth this country will then be known to possess.

The treasure contained in this Comstock lode alone is beyond computation ; the developments made within the last twelve months, at the greatest depth which has yet been reached—1,500 feet beneath the surface—has convinced the most incredulous. It is sufficient to stagger the mind when contemplating what treasure will be developed at a depth of 4,000 or 5,000 feet, which can be reached by means of this tunnel.

Duty of the Government.

As far as the duty of the Government is concerned, it is very plain. There can be no question that these mines on the Comstock lode are the most important in the whole world, and I do not believe that any other nation ever possessed a series of mines as valuable as these are. Any nation on the globe would be proud to possess such a property within the boundaries of its country. If we inquire as to the motives of Napoleon in sending an expedition of conquest to Mexico, we find that he was anxious to secure the mineral products of that country. We have in Nevada a single vein of ore almost as important as all the mineral wealth of Mexico. These mines are now worked for stock-jobbing purposes, and are the worst-managed property on the face of the globe. Having mines of that importance, it is to the interest of the Government to have that state of affairs cease to exist. They are worked in the most extravagant manner. The precious metals are wasted, and they furnish the worst kind of an example for other mines. They discourage the people from going into mining operations ; and what we want is capital to flow into that western country. As long as we have no capital flowing there we cannot open up our mineral wealth. We have authentic accounts that those mines have yielded $125,000,000, and that they are now yielding $15,000,000 a year ; and I mean to say that if the tunnel was in, the yield would be increased to from $30,000,000 to $50,000,000 per annum.

Scientific men may say what they please about the continuance of mineral veins in depth ; it has no effect. I have been for six or seven years in contact with financial men, and they do not believe in any theories. In the first place, they are too unscientific as a class to understand geological evidences and deductions ; and, in the second place, they are too much occupied to bother themselves about it. They can make money easy enough without making such investigations, and they will not trouble themselves about it. But if you demonstrate it practically that these mines reach down, and that they can be worked profitably, to great depth, money will flow in that direction of its own accord ; and, as I stated, thousands of tunnels will be made in our western hills ; thousands of millions of taxable property will be created, and the increase of bullion will be immense. As regards political economy, I will not tire you out by quoting any authorities thereupon. You all know that it has an important bearing upon the payment of the national debt. We have the authority of Chevalier, John Stuart Mill, Bowen, and others on that subject.

Security to the Government.

As far as the security we offer is concerned, it is ample. We have asked that question of almost every witness we have had here. and they do not doubt it. THEY KNOW THIS ROYALTY ALONE WILL ENABLE US TO PAY BACK THE MONEY LOANED US. Professor Newcomb and Mr. Luckhardt say that it cannot be questioned ; and I venture to say that many times the amount could be returned, if it were required. All we ask is the good-will of the Government to help us make the first four miles of this tunnel, and then we will make a hundred miles in addition. We do not ask any gift of the Government We only

ask for so much help to get this tunnel in. We give the Government the first mortgage on this property ; and, as has been shown here by every witness, there is no question about the security at all. Even if there were not an abundance of ore below the tunnel level, the low-grade ores, which amount to hundreds of millions of dollars, which we shall be able to extract above the tunnel, alone will secure several times what we ask. These people who oppose the tunnel say there is no necessity for any aid ; that the land at the mouth of the tunnel will be worth $3,000,000, and that the income will be $6,000,000 per annum. That is all very well to tell us ; but we may not have a dollar of income until the tunnel is completed to the Comstock lode. If we have an income of from $2,000,000 to $6,000,000 per annum thereafter, we can pay that money back very soon. We are now at work on this tunnel. We are pushing it forward day and night. We have invested the limited capital we have, and are pushing it along, to show our own faith in the work. Now, the Government ought to step in and come to the rescue. Our money will probably be exhausted in another year from now, and the work may come to a stand still.

Mr. Sunderland has criticized this bill. He says this bill is for Mr. Sutro, and that it does not mortgage all the property. Now, we ask you, gentlemen of the committee, to make that bill so perfect that there can be no doubt about the security given by a first mortgage. We want to mortgage to the Government the royalty we receive from these mines ; and that royalty is as good security as the Government would ask ; and we want to mortgage everything we have besides. According to the statements made, we have $700,000 a year to receive from royalty, while these people are saving $9,000,000 at the present capacity alone. If the yield is trebled, which it likely will be, why the income from that source will be $2,100,000, and the saving to the mines $27,000,000 per annum. We are asking for a loan here, and not for a gift. The Government will have entire control and revision of our accounts. Unless we make a correct report of the income, our rights are forfeited ; and there are commissioners to be appointed under the law who make their reports to the Government.

The Bank of California composed of patriotic men.

Mr. Sunderland has told us that if the Government puts its money in, it ought to own the tunnel. It is not the policy of this Government to go itself into such enterprises ; but it is the policy of the Government to foster great interests, and aid in the development of the country. The Government does not want to go into mining operations and own these works. The attorney of the Bank of California has told us that if we get this aid, our stock would go up to par, thus enabling us to fight them. He cannot mean that we will fight them, but we will be able to take care of ourselves and resist their opposition ; but if we do not get this aid, they can continue their fight and prevent us from obtaining the means to construct the tunnel, for they still cling fondly to the hope that they can delay us in obtaining the means, and thus possibly break us up yet. What interest have they in coming on here to Washington and opposing a loan to this work ? Are they such patriotic men that they come here to advise the Government what to do ? Why, the very fact that they have agents here to oppose us ought to help us. They have been trying to show all along that this tunnel is useless. They come here lobbying against us, and trying to upset this great work, in order to leave us to our fate. We have spent hundreds of thousands of dollars already, and we expect to expend $1,000,000 before we will receive a dollar from the Government.

Will Congress assist the laboring men?

Let us look at the other side of this question. Who are the people favoring this work ? Why, the laboring men. Every one of these witnesses has shown that the laboring men and the Miners' Union are favoring it, while the Bank of California is opposed to it. Now, I say, will the Government consider the interest of these laboring men? *They have invested their savings in this tunnel; and while this Government has done much for great corporations, let it come forward now and assist these laboring men.* These working men are interested in this tunnel ; hundreds, nay, thousands of them are now or will be. They want to see this work carried out. They want to be relieved from the terrible doom they are condemned to in those mines, exposed to a heat of 110°, breathing air almost deprived of oxygen, which slowly kills them. We have had an instance at Gold Hill. Where *forty-two* miners were burned to death. Every mine-owner ought to be compelled by law to construct shafts and outlets, and, if that tunnel goes in, we shall have an outlet for them ; they will have a chance to escape.

Take the humanitarian view. These mine-owners ought to be compelled, everywhere throughout the United States— in Pennsylvania and all the other mining sections—to furnish outlets of escape. Good ventilation, besides giving an immense saving to the mine-owners, is a great relief to these poor men, and protects their health. These commissioners were not allowed to go into a single mine, as they have stated, but that they were accompanied by the superintendent ; and they asked these miners how they felt, and they said " quite well, " yet these commissioners could not imagine how that could be when they felt so faint themselves. All the inquiries were made in the presence of these superintendents, and the miners did not tell what they desired to say for fear of being discharged.

Policy of the Government.

It has been the policy of this Government to aid great interests and foster science. We have had numerous exploring expeditions ; extensive geological surveys ; sent ships to the North Pole ; and sent an expedition into Brazil to explore for coal ; have sent others to make astronomical observations. An appropriation just passed gives $50,000 to observe the transit of Venus in three years from now. It has been the policy of this Government to foster science and the acquisition of knowledge. Here we have a work that will do more for science and geology than any investigation heretofore made, and at the same time will directly add to the wealth of the nation. THOUSANDS OF MILLIONS will be added to our wealth, and all this will be accomplished without the actual contribution of a single dollar by the Government. We are spending millions every year for commerce. Here is an interest as important as any we have in this country ; and I mean to say that, in ten or twenty years from now, this mining interest will be almost the leading one in this country.

The Government has done nothing for the mining interest as yet. We have paid our proportion of taxes in these mining regions. We have no manufactures to protect. We have no commerce, and no rivers and harbors to be improved. The mining regions have not received a dollar from the Government in any shape whatever. We have contributed more than $3,000,000—yes, many times $3,000,000—during our short existence, in paying towards the support of the manufacturing interests in the east. Now, what do we ask here for this mining interest ? We ask simply a loan of $3,000,000 in carrying out a work that will do more than anything else you could do to promote that interest.

I have hurried over the latter part of this subject somewhat, and still I have almost wearied you out. It is a vast one, and of great importance. It is one which you, gentlemen, living in this part of the country, hardly realize ; but if once you travel over that immense country to the Pacific coast, you will be astonished. You may read descriptions, but without seeing for yourselves you cannot fully understand them. That vast area of country has been designated on the maps as the Great American Desert, but while the land there is almost unfit for agriculture, those mountains are perfect fountains of wealth, and I come to Congress and ask you to help us along against the overwhelming monopoly which is keeping our prosperity back, and which has been trying to crush us out for years. I believe that during all these struggles *I have contributed somewhat to the knowledge of our vast mineral resources.* I have published books, maps, and pamphlets, which have been seen and read by public men, and awakened an interest in the examination of this great subject of mining for the precious metals.

Mr. Chairman and gentlemen of the committee, I will now close my remarks. I must have almost exhausted your patience in having you listen to me so long, though I am sure I have not done half justice to this great subject.

In closing, then, I want to call your attention to the fact once more, that this is not a gift, not a subsidy, not an absolute expenditure by the Government ; but simply the extension of its good-will, the granting of a loan, with the most ample security, to assist in the execution of a work which must enhance the property value of this country to the extent of thousands of millions ; and let me say to you, gentlemen, that you will point with a feeling of pride to the day when, by voice and vote, you assisted in the execution of a work which will hereafter be looked upon as a proud monument to the enterprise of the American people.

REPORT OF THE COMMITTEE ON MINES AND MINING.

The Committee on Mines and Mining, to whom was referred H. R. 1173, entitled "A bill to aid in the construction of the Sutro tunnel from the proceeds of the sale of mineral lands." after careful consideration, have prepared the accompanying substitute, and recommend its passage :

Your committee have patiently and carefully investigated all the questions having any bearing upon the subject ; they have heard the evidence of the commissioners and other experts ; they have listened to the arguments for and against the bill ; and, without commenting at length upon the details of their investigations, beg leave to submit the following statement of facts and conclusions :

1st. Our mineral domain is almost unlimited in extent, and of inestimable value.

2d. The mines on the Comstock lode are the most valuable in the world.

3d. They have yielded already $130,000,000 in bullion.

4th. Their present annual yield exceeds $15,000,000

5th. Their future yield, by means of a deep tunnel, will be almost incalculable.

6th. Deep tunnels are necessary for the full development of our mining interests.

7th. The Sutro tunnel is of the highest importance to the future profitable working of the mines on the Comstock lode.

8th. The construction of this tunnel was authorized by the Legislature of Nevada.

9th. The mining companies on the Comstock lode contracted for its construction.

10th. The Legislature of Nevada memorialized Congress to aid in its construction.

11th. Congress, by special law, endowed it with certain rights and privileges.

12th. Congress reaffirmed those rights by a refusal to interfere with them.

13th. Congress again reaffirmed them by provisions in two general mining laws.

14th. Congress sent out a commissson to report upon the facts concerning it.

15th. The commissioners made a report, recommending the work to favorable consideration.

16th. Some points in the report not being entirely clear, the commissioners were fully examined by your committee.

17th. Other witnesses, amongst whom Professor Raymond, the United States Commissioners on Mining, were also examined.

18th. The testimony (which accompanies this report, embracing 810 pages) makes a conclusive case in favor of the tunnel.

19th. The construction of the tunnel is entirely feasible.

20th. It will cost from $4,000,000 to $5,000,000.

21st. It will take from 2 1/2 to 3 1/2 years to complete it.

22d. It will be of immense benefit to the legitimate owners of the mines.

23d. It will secure the health of the miners by good ventilation.

24th. It will create an outlet for escape in case of fire.

25th. It will establish a new basis of operations 2,000 feet below the surface.

26th. It will drain the water to that depth by its own flow, and dispense with the numerous steam engines now required.

27th. The water contained in the mines may be utilized as a great water power to pump the water, by means thereof, from below the tunnel level.

28th. Greater depth may be reached thereby than has ever been reached before on any mines in the world.

29th. It will stimulate explorations on all portions of the Comstock lode, and may increase its yield to $50,000,000 per annum.

30th. It will develop several lodes in the course of its construction.

31st. Immense quantities of low-grade ores exist in the Comstock lode and other lodes cut by the tunnel.

32d. These low-grade ores can only be utilized by means of concentrating works.

33d. Extraordinary facilities exist at the mouth of the tunnel for the erection of improved concentrating and reduction works.

34th. The tunnel itself will furnish sufficient water for concentrating and amalgamating purposes.

35th. Cheap motive power can be secured with coal from the Rocky Mountains and firewood floated down Carson river.

36th. As a geological survey, penetrating into this argentiferous mountain, it will be of the highest value to science.

37th. It will serve as a pattern work for all the other mining districts.

38th. Its success will give confidence in mining operations.

39th. A practical illustration of the downward continuance of mineral lodes will give a high value to our mineral domain.

40th. It will make capital flow in that direction.

41st. It will result in the construction of hundreds of tunnels by private enterprise.

42d. It will populate our vast mining regions, and create millions of dollars of taxable property.

43d. It will establish a mart for western produce and eastern manufactures.

44th. The total yield of gold and silver will be largely increased.

45th. The increase of the stock of the precious metals has a tendency of increasing the money value of all property.

46th. That increased value relieves the burdens of the people by reducing the rate of taxation.

47th. It has a most important bearing on the payment of the national debt.

48th. The Sutro tunnel is now in full progress of construction.

49th. The company has secured fund to the amount of $1,500,000, and is expending upon the work at the rate of $50,000 per month.

50th. The work is of national importance, and the aid provided for in this bill will secure its early completion.

51st. The security to the Government is inquestionable, ample, and satisfactory : one half of the royalty alone yielding at the present rate of production $365,000 per annum.

52d. Under the bill reported the aid extended shall not exceed $2,000,000

53d. The company ia required to spend an equal amount to that loaned by the Government.

54th. One half of all the income will be paid over to the Government semi-annually.

55th. The sum loaned, together with interest, will probably be repaid to the Government within a few years after its completion.

56th. No money will be paid until the commissioners to be appointed shall report the completion of each section, as prescribed by law.

57th. A non-compliance with the provisions of this bill will forfeit all rights under the same.

58th. The aid extended only applies to the first four miles of tunnel to the Comstock lode.

59th. This first section of the tunnel will form, as it were, the main artery or highway, from which one hundred miles of branch tunnels may be constructed.

60th. No further aid will be required ; for after the tunnel reaches the mines, the income will be sufficient to make it self-sustaining.

61st. We would in conclusion indorse the language used in the closing paragraph of a report to Congress made by a former committee, recommending a loan of $5,000,000, in the following words :

"That taking into consideration the magnitude of the undertaking, the large yield of bullion which will be directly secured thereby, the great influence by its successful completion upon all our mining interests, the stimulus it will give to

mining generally, the positive proof it will furnish of our immense mineral wealth, and considering the importance of attaining these results, in view of our large national debt, ordinary wisdom and foresight should command that the aid asked for the construction of this important work, or a much larger sum, if it were necessary, should be granted, even were no security whatever offered for its repayment."

For further and detailed information upon the subjects embraced in this report, your committee refers to—

1st. The act of the Nevada Legislature, entitled "An act granting the right of way, and authorizing A. Sutro and his associates to construct a mining and draining tunnel," approved February 4, 1865. (See book on Sutro Tunnel, p. 71.)

2d. The contracts with the mining companies. (See book on Sutro Tunnel, p. 173.)

3d. Law of Congress, entitled "An act granting the right of way and granting other privileges to aid in the construction of a draining and exploring tunnel to the Comstock lode in the State of Nevada," approved July 25, 1866. (See U. S. Statutes at Large, vol. 14, p. 242.)

4th. The Comstock Lode, its Character, &c. By Ferdinand Baron Richthofen, Dr. Phil. San Francisco : Towne and Bacon, printers, 1866, (See Book on Sutro Tunnel, p. 95.)

5th. Joint memorial and resolutions by the Nevada Legislature, asking Government aid in the construction of the Sutro tunnel, 1867. (See book on Sutro Tunnel, p. 13.)

6th. Report to the Legislature by the Senate Committee on Federal Relations on the foregoing memorial, 1867. (See book on Sutro Tunnel, p. 77.)

7th. Resolutions by the Nevada Legislature, January, 1867. (See book on Sutro Tunnel, p. 92.)

8th. Report to the Mechanics' Institute of San Francisco by a special committee appointed to investigate the merits of the Sutro tunnel, April 4, 1867. (See book on Sutro Tunnel, p. 141.)

9th. Report on the Sutro tunnel by the Hon. Joseph S. Wilson, Commissioner of the General Land Office, Washington, June, 1868. (See Miscellaneous Documents No. 156, 40th Congress, 2d session.)

10th. Report of the Committee on Mines and Mining to the United State House of Representatives recommending an appropriation of $5,000,000 by the Government. (Pub. Doc.; see Report No. 50, 40th Congress, 2d session.)

11th. Proceedings in the House of Representatives of the United States March 17, 22, and 23, 1870, and in the United States Senate April 27 and 28, 1870.

12th. "An act authorizing and requesting the President of the United States to appoint a commission to examine and report upon the Sutro tunnel," approved April 4, 1871.

13th. Report of the commissioners on the Sutro tunnel. (See Ex. Docs. No. 15, 42d Congress, 2d session.)

14th. Evidence taken by the Committee on Mines and Mining, 42d Congress, 2d session.

15th. Reports of the United States Commissioners on Mines and Mining for the years 1866, 1867, 1868, 1869, 1870, and 1871

Henry Waldron.	Walter L. Sessions.
Nath. P. Banks.	Francis E. Shober.
Worthington C. Smith.	Pierce M. Young.
James S. Negley.	Chas. W. Kendall.

Washington, *May* 14, 1872.

The foregoing report (no doubt made in good faith) endorsed every statement made by Adolph Sutro, besides confirming the report made in 1868 by a former Committee on Mines and Mining, which consisted of Mr. Higby of California, Judge Woodward of Pennsylvania, Mr. Ashley of Nevada, Mr. J. Proctor Knott of Kentucky, Mr. M. C. Hunter of Indiana, Judge Ferris of New York, Mr. Mallory of Oregon, General Ashley of Ohio, and Mr. Driggs of Michigan.

These official reports were the direct cause of such large amounts being invested in the Tunnel enterprise, thus enabling SUTRO (as I will show yet more conclusively in my second volume) to enrich himself at the expense of the poor miners who invested their hard-earned money in his tunnel shares, as well as of those capitalists who believed that a project about which two distinguished Generals of the Engineer Corps of the United States Army, and one eminent Professor at Cornell University, were selected by the President to make an official report, and endorsed and recommended by such an array of prominent American statesmen as composed the Committees on Mines and Mining in 1868 and 1872, could not be other than a grand, honest, and legitimate one; also that the projector himself, about whom it was said on the floor of the House of Representatives,

"The name of Adolph Sutro will live in history when most of us who are legislating on his tunnel will be dead or forgotten,"

must have been a very superior man, instead of the tricky and dishonest one I will show him to be.

Joseph Aron.

TO THE

COMSTOCK TUNNEL

SHAREHOLDERS

PARIS, May 10th, 1890.

TO THE COMSTOCK TUNNEL SHAREHOLDERS

GENTLEMEN,

Before you give your proxies for the next Stockholders' Meeting, let me call your attention that, as "Shareholders of the Sutro Tunnel Company," you have twice given your proxies to Theodore Sutro ; the first time in 1887, the second time in 1888.

In Theodore Sutro's printed Report of July, 1887, (which I advise you to read over), he explained how he used your proxies that year, (see pages 124 to 126).

He has not yet explained why, in 1888, he used your proxies to undo what he had done in 1887.

I believe I have given, in my letter to James Seligman, Esq., dated Paris, May 8th, 1890, the motives of Theodore Sutro's action in 1888. I take the liberty to enclose you a copy of the said letter.

You will notice in it, that in March, 1889, Theodore Sutro promised to prepare a regular Report to the Sutro Tunnel Shareholders ; he said, "every dollar that has been received or expended since January, 1887, when I was retained to protect the interest of the Sutro Tunnel Shareholders, will be accounted for."

He has not yet kept his promise!!!

Even his own organ, the New York *Engineering and Mining Journal* of January last, (while ridiculing the efforts made by Symmes, Wheelan and myself), had the following on that subject :—

"It is to be hoped that a more complete statement of the expenses of reorganisation of the Sutro Tunnel Co., and that an explanation of the process of reorganisation will be issued shortly. Even if the Old Sutro Tunnel Company has lost its property, the Company is still in corporate existence, and it would seem that its Stockholders have a right to demand an early explanation of what has been done to protect their interests by those who were entrusted to do so."

Let me now call your attention to the following :—

In 1874, a Mortgage of £1.600.000 was agreed upon by Adolph Sutro, as Attorney for the Sutro Tunnel Company, duly executed and recorded, in Nevada, to Robert McCalmont and Isaac Seligman, as Trustees, and £600.000 8 % Mortgage Bonds of the Sutro Tunnel Company were offered in the London Market, (based on the income of 2 dollars a ton Royalty, granted by the Act of Congress of July, 1886), at 82 exchangeable for *Sutro Tunnel Shares at par!!!!*

In 1878, to further one of his schemes, Adolph Sutro was instrumental in getting the Royalty reduced to 1 dollar a ton.—*(Full particulars will be given to the Comstock Tunnel Shareholders very soon).*

In 1890, Theodore Sutro proposes the following, as copied from the late San Francisco papers :—

"Theodore Sutro, President of the Comstock (old Sutro) Tunnel Company, who is in this city, is anxious to have the Comstock mining companies pay over the royalties, now amounting to about 70,000 dollars which are due and which they have been holding back because of the suit brought by old Sutro Tunnel stockholders against the new corporation. He has made an offer to the companies which owe these royalties that if they will pay them now, there will be a reduction of 25 cents per ton in the royalty rate hereafter, making it 75 cents per ton instead of 1 dollar, and on low-grade ores which do not average over 8 dollars per ton he will put the royalty down to 25 cents per ton. Meetings of several of the companies will be held to consider these offers. Mr. Sutro will bring suits against the companies for the back royalties if they are not paid."

Most of the Old Sutro (now Comstock Tunnel Shareholders) members of the New York Stock Exchange, are evidently afraid, judging from letters in my possession, to ask any questions to the powerful Houses who are dividing with Theodore Sutro 550.000 shares of Comstock Tunnel Stock, and $750.000 of Comstock Tunnel Bonds for which they paid nothing.

You paid only a few months ago from 50 to 55 cents for your Bonds, and it is not likely that it is you who sell them at about 30.

If you will consider that there are yet $800.000 Bonds in your treasury which may be used to pay extravagant Lawyers' fees, also probably, to acquire some veins in the neighborhood of the Brunswick Lode!!! You may possibly come to the conclusion that it is worth while *to be yourself* at the next meeting, or if you cannot go, *give* your proxies to attorneys who will examine carefully if your interest and the interest of the *bona fide* Bondholders, are not identical with those of the Sutro Tunnel Shareholders, who brought a suit in equity in the United States Court of Nevada.

In order to let you know which proxies Theodore Sutro pretended to have in 1888, I append a list of the proxies filed at the Stockholders' Meeting. (See page 9.)

Respectfully,

Joseph Aron
30 rue Bergère Paris

COPY Paris, May 8th, 1890.

James Seligman Esq., of Messrs. J. and W. Seligman & Co., New York.
Care of Wm. Seligman, Esq., 32bis Boulevard Haussmann, Paris.

Dear Sir,—On March 8th, 1889, Theodore Sutro, Esq., with the knowledge of the Sutro Syndicate, of which your firm is the principal member, wrote an official letter to the Board of Trustees of the Sutro Tunnel Company in relation to certain documents forwarded by me in which the name of your firm, together with those of Adolph and Theodore Sutro, are often mentioned. From this letter, copied below, I extract the following :

> **His (Mr. Joseph Aron's) statements are malicious. In so far as any of these documents are concerned, which are actionable as being libellous, the method of the author in issuing them from Paris where he is safe beyond the reach of legal process, deserves the severest condemnation.** (Signed) **Theodore Sutro.**
> *President* etc., *of the Sutro Tunnel Company.*

Mr. Theodore Sutro is mistaken : the French laws afford him all the protection he requires. If I have stated an untruth, I can be prosecuted for it here.

If you consider my statements untrue as far as they relate to your house, you can take advantage of your presence here to prosecute me for all the statements I have already made and am going to make in this letter.

You are, for the time being, a resident of France. You have all the elements necessary to prosecute me. You are interested in the well-known bank of Seligman frères & Co., 32bis Boulevard Haussmann. Your brother, William Seligman, occupies a very prominent position here : although a native of Germany, he has been made a Chevalier de la Légion d'Honneur, for his eminent services and the prominent part he took as a member of the Panama Canal Syndicate. It is to his care that I addresss you the present.

I will now copy Theodore Sutro's letter to the Board of Trustees to which reference is made above, and wish merely to state that the documents which Mr. Sutro pretends having only received in March, were mailed to him and to the Reconstruction Committee, in duplicate, and registered through the American Consul General of Paris, on January the 11th.

To the Board of Trustees of the Sutro Tunnel Company, 320, Sansome Street, San Francisco.

Gentlemen,—Certain printed documents have been forwarded to me from the office of the company in San Francisco, purporting to be letters of a Mr. Joseph Aron, of Paris, addressed to me as President and Attorney of the Company.

These documents were placed in the hands of reporters of a small evening paper, *(The New York Evening Sun)*, of this city, and otherwise circulated before I had ever received or seen any of the said "letters" addressed to me. In consequence, thereof, I drew up a memorandum of which I enclose a copy, and which I desire to bring to the attention of the Board of Trustees.

I desire to add that I would pass over these tedious and incoherent effusions altogether, were it not that they are characterized in the strongest manner by an admixture of malice, in the way of misquoting and mutilating the contents of letters and papers, copying only such of them, and emphasizing such parts by italics as suits the writer's purpose, and suppressing others which would place an entirely different aspect on the circumstances to which he refers, distorting facts, indulging in base insinuations, and presenting only a one-sided and highly-coloured picture. In so far as any part of these documents are concerned which are actionable as being libellous, the method of the author is issuing them from Paris where he is safe beyond the reach of legal process, deserves the severest condemnation.

I would further add that on examination of the rambling, confused and garbled statements contained in these illiterate publications, and an endeavour to extract some relevant facts therefrom, can lead to no other result than one fully supporting the correctness of the opinion heretofore expressed by me : that neither the officers nor the stockholders of the present Sutro Tunnel Company, as such, have any standing in court whatsoever, in any proceedings on behalf of any shareholder, as such, of the joint stock association which was the predecessor of the present corporation, looking towards a rectification of the apportionment of the shares of the present Company to the shareholders of the old Company.

The personalities of M. Aron I shall not notice, and I consider it unnecessary to say anything further than the foregoing and what is contained on the enclosed memorandum, as no one is better informed than the Board of Trustees of the unusual efforts which have been made to protect the interest of every shareholder and of the absolute correctness of all proceedings and negotiations relating to the litigation and the settlement thereof. Very truly,

Theodore Sutro, President etc., of the Sutro Tunnel Company.
New York, March 8th, 1889.

MEMORANDUM

The statements lately published in an evening paper in relation to matters appertaining to the Sutro Tunnel Company, are full of misrepresentations and mainly incorrect. The Mr. Aron, of Paris, referred to, is himself a party to the foreclosure, having subscribed on a number of shares with a view to having the property foreclosed, but he would now, at the expense of other people, like to save another large lot of shares on which he has not subscribed. His letters and charges, although addressed personally to me, had never been received or seen by me, until brought to my notice by the writer of the said newspaper article ; this alone is sufficient to characterise the man.

I *made* every effort to avoid foreclosure until it was apparent that the delay involved in the plan would inevitably cause the property to pass into other hands, and thus be lost to all the stockholders ;—as it is, it will be preserved at least for holders of three-fourths of the stock. It was altogether impossible for the Company, as such, to satisfy the claims of the mortgagees.

My brother, Mr. Adolph Sutro, has had no connection, either directly or indirectly, in any way with the Sutro Tunnel Company or its affairs for about ten years.—Mr. Aron's tirades against him are inspired by malice.

I shall not enter into a newspaper controversy about any of these matters.—My only duty is towards the Sutro Tunnel Company and its stockholders, *and in due course of time* I shall present my regular report in which *every dollar,* which has been or still may be received or expended since I was first retained to protect the interests of the stockholders in January 1887, will be accounted for. For the present, I refer to the *contents* of my report of July 1887, to the records of the Company and of the litigation, of the proposed reorganisation and to the various public notices to the stockholders, informing them of the plan of reorganisation *in order to stamp* every assertion contained in the statements of Mr. Aron, reflecting in the slightest degree upon myself as a lawyer or otherwise as malicious falsehoods. (Signed) Theodore Sutro.

Mr. Theodore Sutro stamps my assertions as malicious falsehoods and refers to his printed Report of July, 1887. I will also refer to it.

Page 95 of Theodore Sutro's Report, headed "Litigation to foreclose the mortgage," begins by saying :

> That the shareholders of the Sutro Tunnel Company will be wholly deprived of their property if the pending foreclosure suit, brought by McCalmonts, shall be prosecuted to a successful conclusion, etc.

The Trustees of the Sutro Tunnel (always according to Theodore Sutro) took no action to defend the rights of the shareholders, they were the mere tools of the McCalmonts, and were working against the interests of the shareholders they represented, etc... They were going to make no defence at all, etc...

Mr. Theodore Sutro induced a number of stockholders to contribute a trifle, one cent a share, to defray the expenses of his journey to California. He went there, although, he says, he assumed an enormous responsibility and a great risk, etc... He received proxies for the Board election. He had the greatest difficulty to induce gentlemen of responsibility to consent to act as members of the Board of Trustees. The annual meeting took place, March 7th, 1887, but the McCalmonts' party failed to produce any proxies whatsoever. Their attorney sat by quietly, evidently intending to defeat the holding of any election if he could do so, as in that way their own Board of Trustees would have been able to hold over for another year. No quorum being present the meeting was adjourned to March 28th.

Mr. Sutro says further that McCalmonts' agents, both in New York and in San Francisco treated communications made on behalf of the Sutro Tunnel shareholders not only with silence but with what almost amounted to contempt

Perceiving McCalmont's tactics, etc..., Theodore Sutro telegraphed the following to New York, March 10th, 1887.

To Horace H. Thayer, Room 123, Produce Exchange, New York City.

> Get all proxies possible. Have all shares in names of persons unwilling to give their proxies transferred to real owners. Impress upon stockholders great value of property, about which am now fully convinced. All stockholders should now help. Theodore Sutro.

Enough proxies were obtained, says Theodore Sutro, to carry the election, and five out of seven trustees were elected by him ; the two other Trustees, Messrs. Johns and Ames were elected by McCalmonts.

I will now copy from pages 124 and 125 of Theodore's Report what he says about the new trustees :

> As to the gentlemen selected as trustees, I may say that it is fortunate that, under adverse circumstances, we were able to elect so excellent a Board.
>
> Mr. Moritz Meyer, President of the Company, is a member of the Firm of Daniel Meyer and Co., a millionaire banking house in San Francisco, and is also cashier of the Bank of Nevada, at Reno, Nevada. Having been until recently a resident of New York City, he is sufficiently known to the shareholders.
>
> Mr. John Landers, the Vice-president of the Sutro Tunnel Company, is the general manager for California of the Manhattan Life Insurance Company of New York, the president of several mining companies, and a man of considerable practical experience and enterprise.
>
> Mr. Frederic Roeding, Vice-president and Cashier of the German Saving and Loan Society of San Francisco, who is one of the best known German gentlemen there, a man of great business and financial experience, and highly respected ... Mr. David Cahn, Manager of the Paris, London and San Francisco Bank.
>
> Mr. Mountford S. Wilson, an able young lawyer, and of excellent business tact, the son of S. M. Wilson, Esq., the latter being of Counsel in the pending litigation, and standing at the head of the Bar in California, and being President of the Bar Association of San Francisco....
>
> The newly-elected Board of Trustees therefore is unimpeachable, and the property and affairs of the Company are in good hands.

The above Board of Trustees, in April 1887, gave Theodore Sutro a full power of attorney to look after the interests of the Sutro Tunnel Company. They paid him very liberally.

You know, Mr. James Seligman, they are highly-honourable gentlemen, but they were not the kind of trustees who would approve of anything unfair.

Having become alarmed about the way Theodore Sutro intended to use his power, they protested, and sent to New York, Mr. Ames, who was one of the trustees selected by McCalmonts, to offer to their Agents, Messrs. Kidder Peabody & Co., all that was required to protect, honestly and fairly, McCalmonts' interests.

Theodore Sutro, by false statements, convinced Mr. Ames, that he was acting for the best interest of the shareholders. The Board of Trustees who had already passed a resolution, withdrawing the power of attorney conferred on Theodore Sutro, renewed it again on February 15th, 1888, on Mr. Ames' return from New York.

Theodore Sutro found out that he could never get that Board of Trustees to approve the high-handed outrage he was going to attempt against the interests of the shareholders.

A plot was organised to put them out of office by Theodore Sutro.

With **your assistance** it was very easy for Theodore to again obtain the proxies in 1888 (as he did in 1887), for the annual election of trustees. Yet he had not the audacity to go himself to San Francisco as he did in 1887. For two reasons : Firstly, the trustees named in his report of 1887 would have asked him, before the election, for explanations, which would have been entered in the Minute Book of the Company ; this would not have suited him. Secondly, Theodore Sutro, like all unprincipled men, is a natural coward. He dared not go himself face the Board of Trustees selected by him in 1887, nor could he have proved to them that all his proxies were genuine and correct.

The proxies had been given to him. Of course, the right to transfer a proxy to somebody else is very questionable ; but this did not deter Theodore Sutro, who found in San Fancisco a willing agent ready to aid him in what I call his nefarious and dishonest work, and to whom he transferred all his powers.

This agent was Mr. Philipp N. Lilienthal, Cashier of the Anglo-Californian Bank, the successor of your firm in San Francisco, and son-in-law of one of the Seligmans, who were themselves the leading members of the Syndicate.

Mr. Philipp N. Lilienthal, acting under Mr. Theodore Sutro's orders at the meeting of the Shareholders, voted against the reading of the Minutes of the Stockholders' meeting of the previous year, and also refused to allow his proxies for over 1,000,000 shares, to be verified. . . . He concluded for the greatest good of the Sutro Tunnel, Company, that it was necessary to discard the Trustees named in 1887, and notwithstanding the protest of the Shareholders at the meeting, (which is on record), Mr. Lilienthal voted into power the following gentlemen :

HIMSELF ; THEODORE SUTRO ; FREDERIC A. BENJAMIN, who used to be your confidential superintendent in the South Aurora Mines ; **TAUSKY,** (the lawyer mentioned in my letter No. 1 to Theodore Sutro), George Butler ; Milton S. Clapp, and Horace H. Thayer.

Mr. Lilienthal occupies the prominent position of Cashier of the Anglo-California Bank, and as such he should scarcely have consented to become the chief actor in selecting at that critical moment a Board of Trustees, who, with scarcely any exception, did not own five shares of stock, nor subscribe a single dollar's worth of the bonds of the Company.

It is to that highly respectable Board of Trustees that Theodore Sutro, Esq., wrote his letter of March 8th, 1889, referred to above.

But to return to Theodore Sutro's Report of July, 1887, page 138 ? He says : —

> After perceiving McCalmonts' tactics..., I, with my associate counsels, began to take steps to introduce testimony. We prepared interrogatories for certain commissions issuing to Baltimore, London and Paris, to examine respectively Charles W. Brush, ex-President of the Company ; Hugh McCalmont, one of the plaintiffs ; and Joseph Aron, who was one of the first friends and supporters of the Tunnel enterprise, the first president of the Company, and to whose encouragement and valuable services the completion of the work is, to a large measure, due. (1)

You also, Mr. James Seligman, should have been mentioned in Theodore Sutro's Report of July, 1887. Your house took one quarter of the McCalmonts' first purchase of Sutro Tunnel shares. In 1874, when Adolph Sutro as attorney of the Sutro Tunnel, agreed to a mortgage of £1.600.000 ($8.000.000), on the property, (which is duly recorded), your brother Isaac Seligman, was one of Trustees named in the mortgage, etc.

Why, you know as much, if not a great deal more, about the Sutro Tunnel from its infancy than I do ! ! ! !

Did it not strike you as very strange that in Theodore Sutro's Report of July 1887, purporting to give the history of the Sutro Tunnel, the name of Adolph Sutro is not once mentioned ?

Even when referring to the Act of Congress of July, 1866, which Theodore Sutro was obliged to quote, (because the whole title of the Sutro Tunnel depends on it), the name of Adolph Sutro, which is the only one mentioned in the Act, is replaced by three crosses (* * *). (See page 23 of Theodore's report).

Why should Theodore Sutro thus have ignored the man about whom the Congress of the United States ordered over 1500 pages to be printed in relation to his connection with the Sutro Tunnel Company ? These pages now form part of the United States Government Archives ?

Why should Theodore Sutro have left out from his history of the Sutro Tunnel the name of Adolph Sutro, who, according to his own argument made before the Committee of Mines and Mining in Washington, compared himself, for having had the idea of the Sutro Tunnel, to such geniuses as Gallileo, Stevenson, etc., and who put himself down as the victim of the machination of most unscrupulous enemies (Bank of California), and pledged himself to sacrifice the balance of his life for the good of the tunnel, and of the poor miners who were his first subscribers and supporters ?

It was about Adolph Sutro and his great enterprise, the Sutro Tunnel, that a distinguished Republican Congressman, Judge Kelley, of Pennsylvania, thus spoke on the floor of the House of Representatives :

> **The great name of Adolph Sutro will live in history when all of us, who are legislating about his tunnel, will be dead and forgotten. Adolph Sutro has made great sacrifices for the mining industries of our country!!!**

Mr. James Seligman, you know Adolph Sutro, and you are convinced that it is not through modesty that he asked Theodore to leave out his name from his Report of July 1887.

But it was necessary to say something which in a few years from now, when Adolph Sutro's name should appear again as connected with the Tunnel Enterprise would be considered by the great public as an endorsement of what he did.

Mr. Theodore Sutro said at the beginning of his Report, that he intends to give a truthful, unbiassed and uncoloured account of the cost of the Sutro Tunnel.—His Chapter II., page 4, is headed :

COST OF THE SUTRO TUNNEL.

> With interest, etc., the entire cost of the main tunnel and the lateral tunnels and other property belonging to the Company, would amount to $10.000.000. And yet, this sum must be considered moderate, for the interest on the original cost would have been enormous, had not the work, as compared with other similar enterprises, been completed with such exceptional rapidity :—within about twelve years.

Mr. James Seligman, you know, as well as I do, that when Theodore Sutro wrote this, he knew, from the most positive sources that he was telling a deliberate falsehood. The facts and the records show that the means of the Sutro Tunnel Company were squandered in an extravagant and dishonest way by Adolph Sutro, the trusted superintendent and the trusted attorney, of the Sutro Tunnel Company for over fifteen years.

Mr. Theodore Sutro also knew, and the records prove it, that Adolph Sutro alone, having full power of attorney, rendered valueless over $20.000.000 of stock, and besides that, was the sole creator of the McCalmonts' mortgage.

Theodore Sutro also knows that over 300.000 shares, or one quarter of the first issue of the present Sutro Tunnel Company (*not the Nevada Company*), were yet to be accounted for by Adolph Sutro. And also, in 1875, Adolph Sutro, notwithstanding that nearly 500.000 shares stood in his name in the books of the Company, received illegally, as a gift, 100.000 shares of the Treasury stock, and nearly $100.000 in cash for **pretended expenses in Washington.**

Yes, Mr. James Seligman, these facts were known by Theodore Sutro, and the clearest proof that he was cognisant of them, can be found in the interrogatories prepared by him for my examination before the American Consul in Paris, in July 1887. They are on record in the U. S. court of Nevada.

As soon as Adolph Sutro found this out, he saw at once the necessity to make up with his brother Theodore.

The deeply-laid plan to create the Comstock Tunnel Company, was Adolph Sutro's ; he knew that the **wiping out of the Sutro Tunnel Company** would be his only salvation. He taught Theodore how to go to work.

You will admit, Mr. James Seligman, that the agreement made with the Syndicate was for $200.000 bonds as *bonus*. Mr. Theodore Sutro found a way whereby to increase it afterwards, without any consideration whatsoever, to $750.000 of bonds, and 550.000 shares (2).

To prevent the exposure of this fraud, the Books and Records of the Sutro Tunnel must disappear.

Theodore Sutro, with the help of Adolph, will try to manage to get hold of them.

I know what is going on now in San Francisco ! ! !

Fortunately, I have authentic duplicate copies, and if the attempt, which I KNOW, is now being made to get into his hands the books and papers of the Sutro Tunnel Company, be successful, I shall be able to prove with what I have in my possession, all that it is necessary to prove.

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(1).—I was the second president, not the first.—J.A.

(2).—See address to Sutro Tunnel Shareholders by Symmes, Aron, and Wheelan.

Adolph Sutro taught Theodore how he managed to keep the Books and Records of the Nevada Company, which was the predecessor of the Sutro Tunnel Company, which books and records should legally be in the possession of the Sutro Tunnel Company.

Theodore Sutro has been guided by him up to now, and it is to PROVE TO THE COMSTOCK TUNNEL SHAREHOLDERS, the danger they run in trusting to him and to his brother Adolph Sutro, behind, that I am preparing a true and correct history of the Sutro Tunnel Company. They will notice how in Theodore's pretended "truthful report" of July 1887, he systematically left out very important details.

I will also prove to them that all my statements, which he called "malicious falsehoods," are true, and that it will be to the interest of the *bona fide* Comstock Tunnel shareholders to support M. Symes, Wheelan, myself, and other shareholders, in the lawsuit now before the United States Court in Nevada.

While looking over Adolph Sutro's letters which will appear in my history, I found the following, which had hitherto escaped my notice.

COPY JOSEPH ARON, Esq., NEW YORK. SAN FRANCISCO, November 28th, 1875.

MY DEAR JOE,—I do not wonder at your complaint of not receiving any letters from me. . . I would probably not write at great length to day, but you are about the only true friend I have had in all my struggles the last 10 years and I much relieve my mind by telling you all about my troubles. . . I may have made some mistakes and I may have been misled in some instances in going too far in my endeavors to protect the interests of the Sutro Tunnel Company, but you know I have but one solitary object in view and that is to bring to a successfull end the work in which we are engaged. . . I write you thus at length, for I would like you to write to McCalmonts. What you say on the subject may have more effect and I implore you, dear Joe, to write to McCalmonts. I am almost driven to despair. **At meeting of the Trustees**, I explained that every indication showed that we must expect an other struggle in Congress. That 5 or 6000 dollars should be provided to procure the proper person to watch proceedings in Congress, and that besides that, the Company should try to secure **forty or fifty thousand dollars** to be used, should a sudden emergency arise which might require the most prompt and immediate action.—I was met with the most bitter denunciation of both Brush and Wedderspoon, who in direct terms intimated that I was trying to bring about difficulties, so as to enable me to get hold of the Company's funds. You know I turned everything I had over to the Company. I have kept myself and family in utter poverty for years. You know how entirely opposed I have been to the stock gambling in which Mrs. Sutro engaged last year, and I am glad she has pretty much lost again what she had made.

Who knows but that scoundrel Brush has communicated the fact of Mrs. Sutro's gambling in stock to the McCalmonts, with an intimation that it was done in her name ON MY ACCOUNT ?

To come back, however, to the subject. Members of Congress who visited Virginia were taken into the "Consolidated" by Slippery Jim and shown how dry the mines are. These men will stand up on the floor of the House and swear to it.

I wrote McCalmonts that I would sell them 25.000 shares of my stock at $2, and will use the same for our fight in Washington. Is it not wiser for me to let go one-tenth of my interest rather than run the risk of losing the whole?

It is certainly unreasonable that I should spend this money personally, but you see it is the only way to protect our interests. The probabilities of another fight in Washington are very strong, *our enemies will proceed with the greatest caution, spring a bill on us over night, pass it through the House and Senate, and possibly connive with the President of the United States to sign the bill.*

I say, *foolish indeed* are we if we do not provide beforehand for such a contingency in case it should arise... I do pray of you to write to McCalmonts to *beg them for God's sake*, not to impair our magnificent affair any longer, etc.

Congress meets in another week. I have made arrangements to be supplied with all the documents.

Secretary Ames, *by order of the Board of Trustees*, has offered Shellabarger and Wilson $100 per month, to watch the proceedings in Congress, and report, which they have accepted. Such compensation is ridiculous ! ! ! !

Why, my brother Theodore is worth a dozen of these men at Washington ; but Brush and Wedderspoon oppose him because he is my brother, and they refuse to pay his bill after McCalmonts authorised it, and I approved it as correct.

There are fifty-three thousand dollars ($53.000), charged in the books to Adolph Sutro's expenses account, which *McCalmonts ordered to be transferred to general expenses account.* It has not been done yet ! ! Brush wants a detailed account first.... I feel at times like letting everything go to the devil, for while I do not expect any gratitude, I do at least hope not to be abused. (Signed) ADOLPH SUTRO

Adolph Sutro wrote me this letter six months after the trustees had made him a gift of 100.000 shares. It will be seen therein that he admits that his own interest in the Tunnel amounted at that time to 250.000 shares.

He neither received nor bought any shares after this, and yet, Theodore Sutro knows, that in 1879 and 1880, he sold over 550.000 shares.

If I had not the above letter. it would hardly be credited to-day that six months after having received, as a gift 100.000 shares and $100.000, Adolph Sutro wanted more ! ! ! Great danger was ahead : millions were to be spent by the Bank of California to repeal the Sutro Tunnel franchise.

Colonel Brush secured at that time the services of well-known attorneys, who, for $100 a month, agreed to look after the interests of the Sutro Tunnel Company ; and the best proof that Colonel Brush was right, is the fact that the rights of the Sutro Tunnel Company were never interfered with by Congress.

Nor was there any such danger before, and Theodore Sutro knows it better than anybody else. I am willing to take an oath as to the truth of what I stated (in my letter No. 1, pages 3 and 4), that he told me he knew that Adolph Sutro had robbed the Sutro Tunnel Company, in his pretended Washington expenses, in a most shameful manner.

After having written me this letter of November 28th, Adolph Sutro again, on December the 16th, 1875, wrote me another letter on the same subject, which letter appears in my testimony on record in the United States Court of Nevada, and of *which I append a copy,* and with which I close this long communication.

Yours truly,

Joseph Aron
30 rue Bergère Paris

COPY

SUTRO TUNNEL COMPANY, SUTRO, LYON CO., NEVADA.

JOSEPH ARON, Esq., Dec. 16th, 1875.

My dear Joe,—..... By enclosed copy you will see what I propose; I think McCalmont better get out of this affair, if possible, they do not seem to have that confidence in me which I consider absolutely necessary to success; if they knew one quarter what I have done for their interest, and of course all our interests, they would entertain quite different views. From their telegrams, I judge, they consider it a great favour to me, to advance the sum asked for, which I propose to expend in the Co.'s interest. All this appears to me like the resistance which is made by a determined suicide against interference, where the party interfering gets nothing but abuse for his good offices. They evidently do not believe that my statements are made in earnest; think I want to get hold of $ for my own private use.

My dear Joe, far-seeing as you have been in our affairs, and as well as you know what our opponents are capable of, you do not understand the danger we are in. To all outsiders it looks almost *impossible* that they could succeed in Congress after these many failures, especially in such a Congress as the present one. I have seen things done at Washington which looked more impossible. Nobody knows the perfidy and cowardice of the average politician like I do. There is an element in both Houses which is purchasable. I shall not bring the Senate into consideration at all, for they can have it body and soul if they so choose; of this I am well satisfied. Therefore, our only reliance is in the House. Now I do not know much about the present members, but I take it for granted that, out of say 280 members, one fourth, say 70, can be manipulated in the interest of most any scheme. Thirty more can be found, I think, whose conscienceious scruples may be lulled to sleep, and that is all they need, for often there are but 200 members on the floor, of which 101 carry any measure. Our opponents know every strong friend we have; some of those must be got out of the way to keep them from making any fuss, and there is no telling, but they might get sick, or be sent for to go to Chicago, or New York, or some other place on most urgent business just about the time they are most needed. Then there are a thousand tricks these Congressional or political manipulators play. Some men, whom you and everybody considers unapproachable, have also their weaknesses; women are brought into play, and one of the strongest-bow is, promised aid to men ambitious who have high political aspirations. There are men who have their heart set upon becoming President of the U.S.; supposing powerful parties intimate to such persons that if they do not remain neutral at least, on a certain question, their presidential aspirations will come to naught; that large sums will be employed against them in the convention to prevent a nomination. I can assure you, my dear Joe, I have seen just such cases, and the most honorable, conscientious and upright, as far as these qualifications are found amongst professional politicians, completely weakened, and concluded that a little policy is safe thing after all. These members have *pet* measures, which often are their dreams of a lifetime. They come to Congress to carry them out, and their whole aim and object is to *make friends*; they are afraid to step on other members' toes, whose votes they want, and you can see them dodge out of the lobby doors, by the dozen every time an important vote is taken. Others again are natural cowards, they are afraid to stand up in a contest against powerful combinations, and, though honestly opposed to a measure, are afraid to open their mouths I call your attention to these things for you do not seem to have much fear of what might happen. Kerr's election to the Speakership is certainly much in our favour; so is the approaching Presidential election; so is a democratic House. Kerr, I believe, is truly honest, but he has strong presidential aspirations. He is a strong friend of mine, and I predicted to him on several occasions, more than five years ago, that some day he would be President; three years ago we met in London, and were about together a great deal and saw all the sights that were to be seen. Few men, however, have ever been elected to the Presidency, or any other high office, who did not buy great sacrifices of their conscience, honor and friendship. It is the same in every country, neither D'Israeli nor Gladstone will stop at trifling obstacles of a conscientious nature, when the question, who is to lead the ruling power, is at stake.

But it is no use to go into further details; one thousand, four thousand or even ten or twenty thousand dollars, have wrought wonders with men's consciences, and I have seen things in Washington during the eight years I have spent there during the session about which I could write a book of four hundred pages. It is a wonder to me now, and it has been the wonder of politicians all along, how in the world I managed to resist such power.

Now recollect, my dear Joe, Sharon, Jones, Sargent, and all the rest understand the difficulties in the way at this session as well as I do; they are bound to make an attempt on us, of that I am convinced, for they have no hopes in the courts, are therefore confined to Congress. So if they do make an attempt it will be only after the most mature, deliberate and at the same time most secret preparations, backed up by piles of money, for they are not such fools as to undertake another fight and get beaten, which they know will weaken them so that they could not attempt another, at least in this Congress. If they mean to fight another battle the campaign will be a very short and decisive one.

You see I have understood the situation all along, and for that reason made such urgent demands for money; I feel that I must have some, to win; my two thousand dollars will reach as far as their half a million. Trough B. and W., McCalmonts have been led to think that there is no danger ahead, and hence conclude that I must either be unnecessarily alarmed or do not mean to act honestly; if they truly think the latter, I should want to get out of our affair at most any sacrifice, for I will not be connected with persons who question my integrity.

I have, for all this, considered it best to have them give me the options asked for, and I hope they will so decide. I shall in that case, I am confident, succeed once more at Washington at the present session, and I consider that practically the end of all attempts. Sharon, the little scamp, is full of confidence of what he can accomplish, and he is determined to show to others what he undertakes is bound to succeed. He will get such a rebuff that he will sneak back into his hole hereafter, and come to the conclusion that Congress is not his stamping ground.

If they conclude to let me have the sums asked for to be advanced, and let Brush slide, I shall also be satisfied. In the third case *good bye* to all our prospects.

I shall not ask Theodore (1) to go to Washington again until this matter is decided; Frank Young, my former clerk, forwards to me papers and documents; I also have received some already from General Banks and other members.

Very truly, your friend, ADOLPH SUTRO.

(1).—Theodore Sutro the President and Attorney of the Sutro Tunnel Company, and the present President of the Comstock Tunnel Company.

Paris, May 8th, 1890.

D. O. Mills, Esq.,
Ex-President,
and
Mr. Brown,
Cashier,
of the Bank of California.

Gentlemen,

I am accused of malice and bad faith in an official letter written by the President of the Sutro Tunnel Company, (now on file at that office), for having stated that Adolph Sutro obtained from the Sutro Tunnel Company over one hundred thousand dollars in cash, and over four hundred thousand shares of Stock (Nominal $4.000.000), on the *false pretence* that he had to fight the "Bank of California," which he said, was spending millions of dollars to purchase "Members of Congress" in order to get them to repeal the "Sutro Tunnel Act of July 1866."

I take the liberty to enclose you a letter dated "Paris, May 2nd, 1890," addressed to James Seligman, Esq., in which are to be found copies of two letters written by Adolph Sutro, dated November 27th, and December 16th, 1875.

Those letters were written after the above-named amounts had already been obtained by Adolph Sutro.

I also call your attention to the fact that in 1872, Adolph Sutro made an "argument" before the Committee of Mines and Mining, in Washington, printed by his order, and from which I extract the following :—

BANK OF CALIFORNIA

The Bank of California rules and runs California. They own almost everybody in it. They concluded to drive me away. . . . . Alpheus Bull was the tool of a ring, which had then been formed by the Bank of California, and they thought they could explode the Tunnel project. It was next to impossible to obtain redress. You could not do anything in any Court of Law. It was reported that they could manage almost every judge in that part of the country, and they had vast influence with all the newspapers. They thought they could ride roughshod over my rights.

The Bank of California thought, that in a few years, I would be entirely used up, for I had no money to fight these people with, and they had millions and were making millions every year, fleecing people, &c.

The people of Nevada were being swindled by a kind of pawnbroking Agency, in charge of a man, by the name of Sharon, who manages the Bank of California, in Nevada, &c., &c.

I appeal to you, Gentlemen, to say whether my statements referring to Adolph Sutro, were, "as affirmed by the President and Attorney of the Sutro Tunnel Company," malicious,

I am Gentlemen,
Yours very respectfully,

Joseph Aron
30 rue Bergère Paris

ADJOURNED ANNUAL MEETING OF THE SUTRO TUNNEL STOCKHOLDERS

MAY 3, 1888.

The President of the Company, Mr. Moritz Meyer occupied the chair. The following persons were present:—

John Landers, John Landers, jr., Moritz Meyer, M. S. Wilson, William Johns, P. W. Ames, Hugh Marshall, P. N. Lilienthal, F. A. Benjamin, M. B. Clapp, Edmund Tauszky, Geo. C. Gorham, jr.

Proxies were filed with the Secretary by P. N. Lilienthal amounting in the aggregate to 1.125.699 shares, of which a list is given in the subsequent proceedings.

It was then moved by Mr. Landers, that a Committee of two be appointed to examine proxies, to report whether such proxies were in due form and properly executed, and the motion was seconded by Mr. Wilson.

Mr. Tauszky made a point of order that the motion was out of order, but stated that he would hand the proxies, as they were called to the gentlemen for examination. Mr. Landers then withdrew his motion.

The first proxy read was that of E. M. Angel, appointing Theodore Sutro or Herman R. Baltzer as his attorney, which Mr. Tauszky stated, was in the same form as all the other proxies.

Mr. Lilienthal also filed with the Secretary an Instrument appointing him as the substitute of said Sutro and Baltzer in all the proxies filed.

Mr. Landers object to the proxy of E. M. Angel as not giving any power of substitution, and objected to each and all of the proxies filed.

During the calling of the proxies, the President, Mr. Meyer, retired, and the Vice President, Mr. Landers, took the chair.

After the proxy of Herbert Griffin had been called, it was moved by Mr. Tauszky that a recess be taken until to-morrow, and the motion carried.

MAY 4 1888.

The Meeting convened at 1.30 p.m., and was called to order by the Vice-President of the Company, Mr. John Landers, in the absence of the President.

The following persons were personally present, in additon to Mr. Lilienthal, who represented as proxy 1.125.699 shares, proxies which were filed by him on the first day of the Meeting.

Mr. John Landers, Mr. John Landers, jr., P. N. Lilienthal, William Johns, P. W. Ames, Hugh Marshall, F. A. Benjamin, M. B. Clapp, Edmund Tauszky, Geo. C. Gorham, jr., James Coffin, H. G. Siebert.

Mr. Siebert addressed the meeting, stating that the meeting held to-day was irregular and illegal, under the Code, which provided that the Board of Directors alone had the power to order a meeting for an election in such cases.

Mr. Tauszky, in reply, stated that this Company was incorporated, and is still acting under the Act of 1853, and was, therefore, not governed by the provisions of the Code.

He also objected to the Vice-President presiding at the meeting, because he is an interested party, and openly a contestant in the election, and entered a formal objection.

The Chairman replied that in the absence of the President, it was his duty, as Vice-President, to preside at the meeting.

At this point, the President of the Company entered and took the chair vacated by the Vice-President.

Mr Siebert again addressed the meeting, and declared the meeting irregular, stating that no adjournment was had of the meeting of yesterday, and that therefore the Stockholders' Meeting had lapsed, and no election of trustees could be had, except by a meeting called by the Board for the purpose.

Mr. Tauszky opposed Mr. Siebert's right to advise either the President or the Board of Trustees of the Company, as he, himself, was one of the regularly-appointed attorneys of the Company.

The President stated that he thought the Board of Trustees should appoint a new date for the election, and the meeting had been improperly adjourned yesterday. Mr. Tauszky protested.

Mr. Landers stated that he considered it would be a very dangerous and unwise proceeding to elect a Board of Trustees, when any doubt existed of the legality of the procedure, as it might involve very serious consequences to the financial plans of the Company.

Mr. Tausky then moved that the meeting proceed to business, and the motion was seconded by Mr. Lilienthal.

Mr. Siebert and Mr. Landers objected to the motion on the ground that there was no meeting.

The President thought that another election should be had, and declined to put the motion

Mr. Tauszky appealed from the ruling of the President, and his appeal was seconded by Mr. Lilienthal.

The President refused to entertain the appeal, and vacated the chair and withdrew from the meeting. Mr. Tauszky entered a protest. The chair was then taken by the Vice-President.

Mr. Tauszky objected to the Vice-President taking the chair, after he had previously said there was no meeting, and requested him to state whether he was, in fact, presiding over the meeting or not.

The Vice-President said he would submit the question to the Board of Trustees, and declared the meeting adjourned.

Mr. Tauszky then renewed his previous motion that the meeting proceed to business, and the motion was seconded by Mr. Lilienthal.

The Vice-President declined to put the motion, saying that he would not assume the responsibility which had been declined by the President and left the chair.

Mr. Lilienthal then stated that as both the President and Vice-President had vacated the chair, he moved that Mr. Tauszky take the chair. The motion was seconded by M. Clapp.

Mr. Lilienthal then put the motion and declared it to be carried, and Mr. Tauszky took the chair, and called the meeting to order.

Protest was made by Mr. Landers and Mr. Siebert, that the proceeding was improper and illegal.

Mr. Tauszky was then nominated by Mr. Clapp for permanent Chairman of the meeting, which was seconded by Mr. Benjamin, and voted upon by the meeting and declared to be carried.

The Secretary stated to the Chairman that the number of shares represented by persons actually present at the meeting was 35.973. And that there were present by proxies only filed to P. N. Lilienthal, 1.125.699 shares, making in all 1.161.672 shares, or more than a majority of the capital stock of the Company.

Mr. Lilienthal moved that he be allowed to vote the 1.125.699 shares, for which he held proxies, and the motion was seconded by Mr. Clapp, and carried.

Mr. Landers objected to the form of the proxies, and to the power of substitution, and also that they were made by parties who were not stockholders.

Mr. Landers then filed the following proxies made to himself, viz.:—

Berrien, A. J. jr.; Frazer, W. C.; Prince and Whitely; Stokes, W. C. & Co.; Stokes, H. B.; Tappin & Stokes.

Of the above proxies to Mr. Landers, those of A. J. Berrien, jr., 2.600 shares; W. C. Frazer, 2.600 shares; H. B. Stokes, 210 shares; and Tappin & Stokes, 3.000 shares; **were also given to Mr. Sutro and Mr. Baltzer,** but were of an earlier date than those given to Mr. Landers. The total amount of such shares was 7.810, making the number represented by Mr. Lilienthal, 1.117.889 shares.

Mr. Landers entered a further objection to the proxies that the signatures to them were **not properly authenticated.**

The Chairman then declared that a quorum was present and that the meeting would proceed to business.

It was moved by Mr. Lilienthal that all proxies should be filed and presented before any voting was had. The motion was seconded by Mr. Benjamin and carried.

The Chairman stated that the meeting would proceed to the election of Trustees to serve for the ensuing year, and appointed Messrs. Clapp and Ames, as tellers.

Mr. Landers objected to the proceeding, and entered a protest against any election being held.

It was then moved by Mr. Benjamin that the calling of the Roll be dispensed with, and that each stockholder and proxy present deposit his ballot with the tellers. Seconded by Mr. Clapp and carried. Mr. Landers objected to the vote.

After inquiring if all had voted, the Chairman declared the balloting closed.

The tellers announced that 1,117,899 votes had been cast all in favor of the following gentlemen :—

Theodore Sutro, F. A. Benjamin, H. H. Thayer, M. B. Clapp, P. N. Lilienthal, George E. Butler., Edmund Tauszky, and the Chairman, declared that the above-named gentlemen had been duly elected Trustees of the Company to serve for the ensuing year, or until their successors are elected.

It was moved by Mr. Lilienthal that the reading of the Minutes of the last Annual Meeting, held March 28th, 1887, be dispensed with. The motion was seconded by M. Clapp and carried.

On the motion of M. Lilienthal, seconded by Mr. Clapp, the meeting then adjourned. (1)

LIST OF PROXIES FILED BY P. N. LILIENTHAL

Angel, E. M.	500	Brigg, Bevy L.	300	Dale, Herman	1.000	Gibson, R. A.	300
Asiel & Co.	4.655	Brier, James	600	Davies, Thos, A.	1.600	Grant, J. B.	100
Alexander, S. L. Co,	2.200	Brigham, H. J.	1.000	Dermuth, H. C.	200	Goetling, Geo.	1.000
Ambrecht, Chas.	700	Boody, McClellen and Co.	500	Dow, D. C.	500	Greeman, J. H.	200
Anderson, F. B.	2.300	Brown, W. A.	200	Drost, C. A.	100	Gregory and Ballou	4.200
Ashwell & Co.	500	Bronson, H.	1.100	Dimon, Chas.	1.000	Grosvenor, J. B. M.	2.300
Allen, John	250	Brown, S. G.	500	Dike, W. H.	1.000	Gleason, S. M.	200
Ashmead, L. P.	600	Borthwick, March & Co.	10.400	Decker, A.	10.000	Goffer and Randle	4.100
Alliger, J. B.	100	Bucklin, S. S.	450	De Yonge and Co.	700	Garden, C. H.	1.000
Ashton, O. C.	1.000	Buffum, S.	1.000	Dermuth, A. M. & Co.	1.000	Gimberscat, C.	500
Amy, H. & Co.	3.100	Burt, Fred. and Co.	2.200	Drake, A. A.	610	Goldschmidt, H. P. & Co.	1.900
Ames, Samuel	500	Burrall, Chas.	300	Durando, F. B.	500	Griggin, Herbert	1.000
Aitken, C. B.	200	Blydenburg, F.	2.300	Dornin, W. C. & Co.	500	Gray, Bryce	500
Appleton, H.	2.000	Burton, M. A.	1.400	Drost, G. A.	1.000	Gibson, W. H.	6.505
Anderson, E. A.	9.850	Burdge, Dwight	100	Dieckman, S.	1.500	Goodman, N. B. & Co.	585
Ackert, P. E.	75	Burt, Fred James	1.500	Davis, Jos. L.	100	Grant, F. J.	1.500
Ames, F. L.	2.000	Bates, Leavitt	1.000	Elwell, W. C.	20	Grace, Wm. M.	1.300
Appeluis, H. A.	2.000	Brown, F. A.	200	Estabrook, E. B.	100	Gilmore, E. W.	2.000
Arena, Henry	500	Chauncey, Chas.	2.000	Edgar, Samuel	500	Gregory, Ballou & Co.	5.100
Ashton, J. T.	1.000	Carey, S. W.	1.700	Evans, Louisa,	500	Gump, Jacob	1.150
Austin, S. H.	100	Carter, J. C.	150	Edwards, J. A.	100	Gombers, H. B.	100
Ayers, Henry	1.000	Chase, G. O.	200	Entwistle, Jas.	500	Garrett, W. F.	100
Baltzer & Lichtenstein	3.900	Cramp, W. G.	100	Elliot, Geo. L.	1.000	Gilmore, Gifford	1.000
Baker, Jos. 4	3.000	Clark, Theo.	200	Everitt, J. R. jr.	300	Gordon, C. W.	100
Backus, W. W.	1.100	Chapman, Mrs. J. M.	600	Edwards, Walter	13.000	Gibson, H. G.	100
Bard, James M.	300	Clarke, Powhatan	25	Ervin and Poland	1.000	Hoadley, J. H.	7.186
Bachrach, D.	250	Cannon, Chas. H.	1.000	Elliot, Alex.	2.000	Hershey, H.	1.075
Basset, Wm.	300	Catherwood, J. H.	800	Eckerson, C. C.	100	Hallgarten and Co.	1.600
Blayden, S. P.	1.500	Chalmers, T. H	1.500	Edwards, C. H.	2,000	Howard, C. C.	3.500
Blatzer & Maten	2.100	Clews, Henry and Co.	1.540	Earlougher, J. M.	100	Hasler, Henry	800
Blatzer, E. V.	5.004	Collins, E. B.	1.500	Estabrook, E. F.	300	Hollins, Virginia	20
Bayard, C. M. agt.	700	Croll, R. D.	150	Eish, G. G.	6.000	Harvey, C. A.	25
Basch, J.	600	Cromwell, Ruth, N.	100	Fuller, I. W.	700	Hines, Samuel	500
Bennett, S. D.	100	Crocker, J. C.	4.200	Fairchild, E. W.	10.000	Harbrouck, J. E.	100
Brewster, Bassett & Co.	1.100	Cohen, L. M.	200	Fries, Albert,	500	Hecksher, A. S.	50
Behrens, H. J.	1.200	Content, Walter	1.700	Fay, W. W. and Co.	300	Haws, W. E., jr.	100
Brewster, Cobb & Eastbrook	200	Corbet, Alex. R.	100	Fechteler, C. Ent.	4.000	Hoag, Wm. H.	700
Bell & Co., John P.	400	Corning, Edwin	1.100	Frazee, W. S.	2.000	Hill, J. Olney	100
Betz, J. F. jr.	500	Crotty, James C.	2.000	Fridenberg, S. M.	100	Hellenberg & Lowenstein	1.100
Bioren & Co.	10.000	Curtis, Jos.	100	Fryer, Jos. T.	100	Helm, W. H.	300
Bishop, S. W.	4.000	Currie, John	100	Frossard, A. E.	25	Heed, Jos. A.	100
Brigg, Abbis, O. G.	1.350	Chase, Horace	1.000	Fitzgerald, Thos.	500	Heil, L. N.	300
Birdnall, Ella, T.	1.000	Collar, Chas. B.	700	Fox, David B.	1.100	Hedges, Jas. E.	200
Brown and Lowndes	13.250	Clark, M.	600	Frink, Wm.	1.000	Hilyard, Geo. D.	15.100
Brooks, J. jr.	500	Carrington, E. jr.	100	Fouché, W. W. jr.	6.000	Higbee, W. H.	500
Brown, Rilery and Co.	1.900	Carpender, J. N.	100	Fridenbury, S. R.	100	Hollins, Celine S.	1.100
Borg, Simon	400	Cramp, J. C.	200	Foster, Bros.	1.500	Hammett, Geo. P.	5.000
Broadbent, A. & Francis	1.000	Clarkson, Floyd,	410	Foland, C. H.	1.000	Hudnut, Jas. M.	1.000
Bosworth, H. C.	500	Clark, W. H.	1.000	Frohman, A.	250	Huntington, L. D.	600
Burkner, L. H.	4.905	Clapp, Susan L.	300	Freis, Chas.	2.005	Hilder, Thos. P.	1.000
Balch, Laura F.	40	Catlin, Geo. S.	400	Félix, L. A.	500	Hunter, H. W.	2.500
Bates, C. G.	200	Crawley, Frank	1.500	Ferris, A. D.	500	Hubbard, L.	20
Bates, H. O.	100	Chaterton, Thos.	500	Fox, L. Webster	400	Hopper, W. G. & Co.	300
Baker, C. E.	4.800	Capen, Geo. F.	1.000	Fox, Geo. F.	3.000	Hamilton, Geo. B.	650
Badeau, C. H.	1.100	Cerf, Chas.	800	Finch, Geo.	2.300	Hobbs, W. C.	50
Barndollar, J. S.	1.600	Coming, E. L.	100	Feth and Gingstak	2.000	Hackitt, Wm. jr.	500
Black, F. L. and C. A.	1.000	Codet, A. C.	10.653	Frazier, A.	400	Herzfeld and Co.	900
Barnum, L. C.	300	Crockers, N. L.	100	Frost, W. M.	2.300	Hoffman, C. C.	784
Barnes, Bros.	1.800	Content, Noah	18.600	Floyd, J. G.	500	Hooper, Eliza,	500
Baltzer, H. R.	500	Cohen, Hermann	1.900	Ford, E. W.	500	Hildenbrand, W.	200
Bauersfeld and Phipps	1.700	Cohen, H. jr.	1.265	Frich, W. T.	1.000	Hecksher, August & Co.	1.000
Breck, Chas. D.	100	Combs, A. B.	2.000	Francis, C. C.	50	Hubbell, C. W.	200
Bernheimer, J. S.	8.900	Cornell, R. R.	1.000	Foster, Chas.	200	Howell, John	500
Bemis, S. A.	100	Cobb, Henry E.	300	Friend, H. W.	100	Haley, J.	500
Berrien, A. J. jr.	2.600	Cruikshanks, J.	1.500	Fogel, J. L. and Co.	600	Haag, Jos.	2.050
Bernheimer, J. S.	5.000	Currier, Jos. W.	200	Farr, W. M.	500	Heim, Marcus	300
Brickner, David	200	Clack, Sydney	500	Gorman, S. G.	1400	Hawes, F. G.	500
Bridget, Patrick	200	Dempsey, W. H.	200	Gamble, John	500	Hawley, I. N.	50

(1) The same day, the newly-elected Trustees had a meeting presided by Mr. Tauszky ; Mr. Theodore Sutro was elected President and Attorney, and Counsellor of the Sutro Tunnel Company, and Mr. P. N. Lilienthal was elected Vice-President.

Hirst, Gabriel	2.000
Howe, Fred. W.	1.000
Hirsh, Leopold	1.000
Hastings, A. L.	600
Horner, Alfred	100
Halstead and McLane	1.500
Hamilton, M. S.	7.450
Hangelter, J.	500
Isaacs, M. S.	200
Ingersoll, O. B.	1.000
Irish, Chas. J.	500
Janes, F. H-	1.625
James, J. S. and Co.	300
Johnson, Wm.	50
Joseph, P.	700
Janes, Henry	5.000
Johnson, S. F. and Co.	210
Jacoby, S.	2.000
Jelphs, Emile	300
Kavanagh, H. E.	60.322
Kruse, H.	1.000
Kimbush, G. C.	1.000
King, A. L.	12.000
King, J. H.	500
Kinhardt, H. R.	2.200
Knight, S. J.	1.500
Kingsbury, J. H.	1.000
Kornfeld, J.	300
Korn, E. J.	500
Kuck, Theo.	1.000
Kretschman, H. R.	550
Keeler, Jos. B.	100
Keller, Max F.	3.000
Knowles, C. S.	10.400
Killam, B. F.	400
Kummer and Becker	3.900
King, E. H.	1.000
King, Chas. A.	2.300
Keppler, R.	500
Knapp, W. B.	200
Knox, R. H.	4.000
Knauth, Nachod & Kuhne	1.000
Kneen, R. H.	3.000
Kirby, W. H.	300
Keeler, E. O.	200
Kimberley, A. D.	1.000
Lockwood, F. M. & Co.	5.950
Loeb, J. A.	200
Langmuir, C.	2.400
Lazarus, Mary,	485
Lazarus, Frank	635
Logan, W. T.	500
Lee, Higginson and Co.	4.500
Lynch, John J.	15
Lombard, Mess. S. L.	100
Lockwood, Geo. W.	1.000
Longhem, Jas.	3.000
Loop, Ed. J.	500
Lazarus, Josephine	485
Ladenberg, Thalman & Co.	5.000
Loth, Joseph	900
Latham, Alexander & Co.	300
Lawrence, Geo. N.	1.000
Lichenstein, Paul	1.500
Levy, M.	2.500
Lippitt, Mary A.	650
Lewis, Jesse	100
Lowengard and Stern	40.700
Levy, May	750
Lippitt, Jeannie	100
Meyer, Henry	7.600
Meyer, Maurice J.	300
Marks, Montague	500
Mills, Robeson and Smith	1.630
Munz, J. M.	1.000
Mastin, J. E.	900
McMicken, J. A. and Co.	300
Milles, A. L.	900
McKim, R. A.	200
McInness, A.	3.500
Miller, Levi, jr,	2.000
Martin and Runyon	2.800
Morris, M. S.	150
McCrea, R. G.	3.000
Moss, I. J. jr.	1.000
Meyer, C. H. and Co.	2.800
Muhleman, M. L	2.500
Martin, C. H.	200
Meeske, O. F.	500
Middleton, C. B.	1.000
Mosher, J. G.	150
McNeil, E. J.	100
Morris, J. W.	600
Mullin, P.	2.000
Medwin, Jas.	1.020
Mason, W. C.	2.800
Meyer, Jacob	400
Marks, Agnes	485
McGovern, Thos. H.	300
McMillan, Eliz	780
Minzesheimer, C. & Co.	20.700
Masten, J. E. and Co.	500
McCown, A. R.	500
McRae, John	200
Maine, M. J.	200
Miller, Thos. J.	200
Miller, C. G.	2.000
McConnell,. R. E.	2.100
McCrea, N G.	1.000
Mackenzie, C. D. & Co.	2.200
McCready, W. J,	3.500
Meyer, E. L.	1.500
Morrill, J. A.	1.000
McNulty, W. E.	400
Merrick, W. A.	700
Monger, Gordon and Co.	200
Menacho, M.	1.100
Mower, S. R.	100
Marshall, E. M.	1.000
Mora, F. J.	3.700
McCotter, S. G.	2.500
Nicholas, G. H.	800
Norton, Thos.	500
Nostran, L. P.	600
Nestell, J. J.	500
North, G. H. and Co.	2.000
Neustaedts, E D. jr.	1.000
Neustadter, Jos.	400
Nelson, H. C.	200
Nostrand, M. S.	100
Nichols, W. S. and Co.	100
Nicholson, Geo. P.	270
Neilson, J. H.	100
Overman, L. C.	200
Offenbach and Marx	400
Oswald, C. E.	200
O'Connell, Thos.	100
Oakley, P. H.	100
O'Neill, Mary A	1.400
Orth, Fred. C.	100
O'Hara, Jas.	100
Pomroy, Bros.	100
Poultney, T. jr.	600
Plummer, Harry	100
Palmedo, U.	2.000
Phipard, C. H.	3.500
Pickering, C. W.	200
Pughee, W. S. S.	11.320
Phillips, Ward	1.100
Price, John R.	2.000
Pless, C. H.	1.300
Patten, Jos. S.	1.600
Prentiss, F. B.	400
Page, F. J,	300
Pierson, J. F	800
Plummer, Jos.	1.200
Pexson, F. and Co.	250
Petrie, C.	500
Pitman, L. G.	1.000
Pugh, W. O.	150
Palmer and Lowengard	1.200
Perrine, W. H.	5.000
Paddock, W. A.	125
Paul, W. W.	2.100
Patten, Geo. D. jr.	400
Pitcher, C R.	1.000
Pick, A. R. and Co.	1.500
Reynolds, W.	2.500
Raymond, F.	300
Reimler, R. F.	1.085
Rose, J. J.	310
Roberts, F. W.	50
Rogers, Henry	6.850
Ross, Richard	500
Reynolds, E. C.	1.000
Reiper, H.	3.000
Richardson, Hill and Co.	2.800
Ranger, Louis	2.300
Reitlinger, Wm.	3.500
Rogers and Livingston	800
Rupp, R. C.	500
Reusens, G.	1.000
Robertson, J. C.	600
Rackerman, E. D. J.	100
Reichelt, A.	400
Roome, S. M.	300
Robinson, W. A.	2.700
Reinhard, S. E.	600
Ruth, Elmer	3.800
Rymar, P. A.	1.000
Ritch, E. H.	1.500
Rollins and Co.	27.800
Sutro, Theo.	200
Smith, E. R.	500
Smith, J. H.	500
Smith H. W.	600
Smith, E. J.	100
Smith, Cornelia,	100
Seligman, Bros.	11.800
Stursberg, H.	10.500
Sargent, S. R.	50
Shrigley, J. B.	200
Sofio, M. W.	3.500
Simes, R. J.	600
Sturges, E. B.	9.400
Scott, A. E. and Co,	1.100
Stokes, H. B,	3.000
Stern, Levi,	150
Strauss, H. S.	1.000
Strohn, Reitzenstein	1.000
Steinbach, D.	800
Schumacher, C.	1.000
Sidenberg, H.	1.000
Schaller, V.	1.000
Shaw, O. F.	200
Seibrecht, Geo.	250
Strong, B. B.	700
Smalley, Geo. N.	1.000
Sutro, Otto	100
Shipman, A. L.	100
Smith, H. B.	1.000
Smith, J. L,	100
Smith, M. F.	100
Smith, T. J.	13.700
Seligman, J. W. and Co.	7.500
Sidenberg, G. and Co.	500
Snyder, S. H.	4.000
Sheaff, Eliza A.	100
Stratton, Sarah	400
Seal, L. F.	1.000
Schwarz, H.	2.600
Scott, J. and Sons	3.700
Scott, David	100
Skeer, Chas. O.	200
Stern, Simon S.	16.900
Strohn, Adoph A.	3.000
Sheils, Geo. E.	1.000
Strohm, S D.	200
Sheldon. G. H.	1.000
Stanley, D. A.	4.000
Stern, Gustav.	2.000
Somerfeld, H.	2.000
Sinawer, H.	100
Sabin, Geo. W.	100
Siqueirea, Ang.	500
Therassea, L. F. jr.	500
Tale, F. H.	900
Tenhmen, H. R.	16.000
Thayer, Chas. F.	500
Thieriot, F. M.	500
Tappin and Stoker	210
Thompson, J. A.	100
Tag, Chas. F.	600
Tuttle, Geo. R.	600
Touchert, O. E.	11.000
Towners, N. S,	700
Tierney, James	38.650
Tale, Mary E.	700
Trowbridge, B. A.	100
Tompkins, W. A.	7·425
Thayer, H. H.	2.000
Townsend, Wheelan & Co.	1.235
Torbert, O. H.	400
Turner, Manuel and Co.	900
Thomas, J. J.	5.200
Thouron, N. and Co.	100
Troville, J. P.	100
Tufts, W. B.	100
Tobey, Austin B.	1.000
Valentine, L.	500
Von Hoffmann, L. & Co.	4.600
Von Keller, A.	50
Volckmann, P.	27.300
Vanderwear, F.	250
Van Alstine, C. W.	1.000
Victor, H.	5.000
Veil, Bernard	200
Vetter, A. J.	100
Vassar, Thos. E.	100
Voolhess, O. H.	625
Van Weel, P. L. A. M.	2.000
Vagts, Jacob	1.100
Von Kapff, H.	500
Van Arsdale H.	12.000
Vilas, F. M.	2.000
Woerishoffer and Co.	600
Watson, Wm. L.	900
Woods, C. F.	1.700
Whittlesey, G. D.	100
Woods, Hiram	100
Williams, J. P.	250
Walker, F. A.	1.000
Wollberg, S.	3.900
Warren, H. M.	10
Watson, J. L.	300
Wells, A. B.	200
Woodworth, C B.	200
Whitfield, F. B.	1.030
Whitridge, W. H.	1.000
Walker, R. Irving	2.000
Willard, E. H. and Co.	2.250
Work, Strong & .Co	1.950
Whitney, Mrs. F A..	900
Washbourne, W. L.	2.000
Weeks, Jas.	900
Welline and Co.	900
Westbrook, S. J. D.	500
Whittemore and Co.	200
Worster, E. P.	100
Wynne, Bridget	15
Whitney, J. M.	2.100
White, Chas.	400
Wightman, L. H.	200
Wood, Eliphalet	500
Waller, W. H.	600
Wylie, Chas.	1.300
Wright, H. R.	14.500
Worster, J. G.	1.000
Young. E. R.	4.080

Read over to-day (December 1892) the preceeding pages I wrote you May 1890 and read also herebelow Theodore Sutro's answer.

Paris, December 14th 1892.

From THEODORE SUTRO'S ADDRESS TO THE COMSTOCK TUNNEL SHAREHOLDERS, September 8th, 1890.

. . . . . .

It is unnecessary to say much about Mr. Joseph Aron. His reputation is by this time very "well established," even beyond the confines of No. " 30 Rue Bergère, Paris, France," as he has heretofore sufficiently introduced himself to the public through his insane publications: if you have glanced through these absurd and incoherend ravings of an illiterate and unbalanced mind, before consigning them to the waste-basket, you may judge how you would fare if your destinies were intrusted to such a leader.

. . . . . .

Each of the seven gentlemen constituting your Board of Trustees either actually owns or directly represents many thousands of shares and bonds, and between them they thus own and control not less than about 850,000 shares and as many bonds.

. . . . . .

We are in a position to state positively that the charge that the members of the syndicate have sold out their stock is as malicious as it is mendacious. On the contrary, the syndicate, and notably Messrs. *J. & W. Seligman & Co.,* are quite content, together with your management and with yourselves, to hold their securities. They have every confidence in the future, and are convinced that these securities will enhance manifold in price, as soon as we shall have *compelled* (1) the Mining Companies to pay; wholly irrespective of the undoubted, though comparatively unimportant, fact that we will eventually relegate the **gamblers** (*Symmes, Aron, & Wheelan*) to the obscurity from which, in their desire for notoriety and their hunger for gaining some advantage from their speculative game, they have temporarily emerged.

The approximate statement of probable income and expenses which we submitted to you in December, 1889, would have been borne out by the facts, had not the gamblers instigated the Mining Companies to withhold your income. In that statement we prognosticated that your financial condition for *the year* ending September 1, 1890, would be about as follows:

Income	$265,000.00
Expenses	84,000.00
Amount necessary for paying interest on the bonds	85,560.00
Surplus cash on September 1, 1890 (one-half available for the redemption of bonds, the other half for paying dividends or making improvements or extensions in the property) .	**$210,440.00**

Our records show the following result for *eleven* months from October 1, 1889, prior to which date the accounts were kept by the Receiver:

Total royalty due from the Mining Companies under the contracts, for the foregoing period (estimating for the month of August, not having the data from Nevada for that month), is about . . .	$224,000.00
Income from other sources (estimating for the month of August as before). about	8,500.00
Total income for eleven months .	$232,500.00

NOTE.—We have also a claim for royalty **due under the Act of Congress**, from the Alta, Justice and Occidental Companies (with whom we have no contracts), estimated to be about $48,000.

The royalty from the other companies would be larger by about $14,000 except for the snow blockade and stoppage of the mills, etc., during the month of January last, which caused our average royalty of $23,000 for that month to fall to $9,000

Total expenses (outside of such legal expenses as have been entailed upon you solely by the gamblers) for eleven months (again estimating for the month of August)	$75,804.47
Leaving net income during said period .	$156,695.53
Deduct interest on the bonds (half of which, but for the gamblers, would have been paid you on May 1st)	85,560.00
Leaving a surplus from income for eleven months	$71,135.53
Add to this, cash on hand at time of approximate statement of December, 1889 (including income from the property for the month of September, 1889)	115,000.00
And balance in hands of Superintendent, October 1, 1889	879.68
And additionnal cash to your credit, since received from the Union Trust Company	8,532.69
Would leave a surplus in your hands of about	**$195,547.90**

(which would be about **$209,500** if our royalty for January had been the usual average, as before explained, against the estimate of about **$210,440** made December 1, 1889), which sum of $195,547.90 would be available, as above stated, for redeeming bonds, paying dividends or making improvements, etc., if it were not that the **gamblers** have temporarily tied up this large amount and then, with malicious duplicity, send you a scurrilous pamphlet in which they try to shift the responsibility for this result of their own diabolical yet stupid performance, upon the shoulders of the present management.

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(1) 22 days later—on November 1st, 1890—the Mining Companies were *compelled* to pay !!! See what your income has been from November 1st, 1890, to November 1st, 1892.—J. A.

FAC-SIMILE

of Letter of Adolph Sutro before the incorporation of the California Sutro Tunnel Company.

Washington, D. C. June 30 1868

Friend Joe

I hope you received by the last express 50 copies of my book forwarded on the 17th inst by Wells Fargo & Co's Express. —

I wrote to you at that time to keep those books and not let any one see them until I should telegraph to you, to deliver them. — By the time this letter reaches you my bill will probably be about been reached and you may then look for the telegram spoken of.

It comes to well to have the books already bound, made up in parcels for the different places they are directed to, so you may be able to dispatch them at once when you hear from me. — Please see that they are properly put up so they may not get injured. —

My chances for success have constantly improved since I saw you, precisely as I anticipated when I told you they were good. — I am almost certain that the bill will pass the House, and if it should

possibly fail in the Senate, its passage must fall in absolutely certain and as far as the expiration of the contracts is concerned, that would be remedied in such a way as to form no obstacle. —

Such a result will come to an end sooner or later and I expect my bill up in the House by the end of July. The Committee to whom it has been referred, will report almost unanimously recommending the appropriation of 5 million dollars an informal vote taken it stood 8 for and 2 against it. — This is the most important point to gain, inasmuch as it secures a passage in the House. —

If I had 500 or 1000 dollars to dispose of now, it would be of great service. —

I shall send you a copy of the bill & report of Committee as soon as it is written. — Very truly Yours

Adolph Sutro

PHOTOGRAPH

of Two Letters written by Adolph Sutro when the Sutro Tunnel was started in 1869

Virginia October 20 1869

Ralph Ross Esq
San Francisco

Enclosed a slip from to-day's Enterprise which gives a pretty truthful account of the doings at the tunnel yesterday. Unfortunately it rained very hard which prevented many at Dayton even from attending, while hardly any one came down from here and Gold Hill. Still the affair was a glorious success and everything went off here superbly.—

People here commence to think the tunnel will go right ahead now, and in the same proportion as confidence gains the hard people become weary and their dirty

sheet the Gold Hill News, howls all the louder; I send you a copy of to-days issue to give you a sample of their style. That sort of thing makes us many friends, and those who would otherwise be indifferent become interested in my behalf.

If I could get half a dozen good men interested in the affair and have the public hoaxed, it would go right along. Please have another endeavor to get Sloman to take hold of the thing earnestly; get him to raise the amount necessary, mentioned in my last letter, and I shall look upon the whole matter as sure to go through.

They seem to think here now, that Congress will make the appropriation; I always

thought so, but even if it should not make it, I believe the money can be raised in N. York with all that is therein about this matter now.—

I am under heavy expenses this month, after this month is over they will be much reduced, for as soon as we get fifty feet of the full sized tunnel 14 x 12 in, we commence in the small first mining tunnel 4 x 6 which will not cost over $15 per foot, and I shall probably let out a contract.—I want a piece of full sized tunnel so as to show what it will be like, and have ordered all the necessary timbers for the same.—Then we are putting in a track now and cars, all of which is quite expensive.—

I shall try to make all the collections here I can this week and early next week and shall then come to San Francisco about the 5th of November and see what can be done there.—I think I shall be able to collect a considerable amount down there, provided our friends will assist me some.—

In the meantime it may be possible that I shall require $800 to $1000 by the 1st inst. in order to settle up all accounts before I come down there; could it be possible for you to get it for me, so that I may have it in case it should be required? Please tell me in your next letter.—

I am under so many obligations to you that I come cutting against my grain to ask any more favors of you. Very truly yours A. Sutro

Virginia City Nev. Nov. 1 1869

Mr Orr

Friend Sir

Your telegram of this morning was truly welcome to me; though I have considerable subscriptions they pay as bills and I collect money by $5 and $10 from poor people in dollars worth and above all do I care about sustaining my Credit just now. —

I can now pay all bills due this month and next month will provide for itself for I think we have sufficient secured for that. In the mean time I expect to lay in 3 weeks in Van Brunt's estate will take. —

I have drawn on you to day order W. F. & Co for $500, bearer will receive on just on the 3rd when I want it. I lead to purchase that Crum for nobody discounts or cashes any drafts here now.

Let me thank you once more for your consideration and believe me yours very truly

Adolphus Sutro

LETTERS OF ADOLPH SUTRO (1)

LONDON, May, 1873.

JOSEPH ARON. Esq.,

Dear Sir,—*I have heard* a great deal in my life about the abitity, thoroughness and conscientiousness of *English* lawyers and entertained that preconceived opinion about them, it has been my ill-fortune to have my affairs made dependent upon the examination of one of them and of course have become somewhat acquainted with their mode of doing buniness.

Whether *our man* is a fair specimen of the species or a natural curiosity belonging to the tribe, I am unable to tell, but I know *he is* a miserable, lying, ... whelp, who has humbugged us from day to day for weeks and months, promising all the time that to-morrow or next day or that week sure everything would be ready, &c., &c. The coolest thing he tells us every time is that his time is so valuable that while we are talking to him we are retarding his business just that length of time and while he is telling us that keeps moving towards the door. Now what can you do with such a fellow, who would be called in the refined language of Nevada a son of . . . . . he has delayed us from day to day. You may ask me why we have not taken the matters out of his hands and given it to somebody else. We spoke about it but concluded we would gain nothing by such a course.

The fact of it is the people of London are the greatest set of fools on God's earth for allowing themselves to be humbugged and imposed upon by a half a dozen law firms, without the service of whom no large enterprise can be launched successfully and consequently these half a dozen are overrun with business and do just as they please.

The Bankers, the Brokers and Agents all say an opinion must be had from one of these lawyers before anything can be done and *what can a stranger do* in the face of all that?

After all the struggling we have got Mr. Clements (that is our worthy's name) at last to give an opinion in writing that the papers are all straight and on the strenght of his report we all held a **Meeting, and at that meeting concluded to increase the Capital Stock**, issue a Mortgage Bonds for 6 or 8 Millions of Dollars and make them convertible into stock at the option of the Holder after completion of the Tunnel.

I telegraphed that very night to make the increase, now the next thing was to make out the Mortgage in order to sent it out and have it recorded, we have just received an imperfect printed draft of the same and I suppose it will take another week to complete it. Then comes the questions whether the lawyer will allow us to proceed to advertise the affair and go on with it before it is actually recorded.

. . . . . Colonel Brush and myself live together at 28, Conduit Street, and I see and consult Coulter every day. Both wanted to be remembered to you and I should have stated this in my previous letters.

(Signed) ADOLPH SUTRO.

LONDON, May 24th, 1873.

JOS. ARON, Esq.,

Your telegram of yesterday duly reached me. I am glad to know the increase of capital has been so promptly attented to. The delays in this affair have been most provoking and must be charged altogether to Mr. Clements, the solicitor, to whom the papers have been submitted and who has humbugged us the last 60 days in the most outrageous manner. We god a report from him at last and he suggest how the funds had better be raised. Upon a general Consultation at McCalmonts we concluded that the Capital Stock had at once better be raised to $20.000.000, which would make a much better showing as to the proportion of stock which is gone already, and furthermore give a better guarantee to persons investing, that ample means are at command of the Company to complete the work, probably £600.000 of these 1st Mortgage Bonds would be sold at once and the others be kept in reserve.

Should we still press a Bill upon Congress they must be satisfied with a 2nd Mortgage, &c., &c.

(Signed) ADOLPH SUTRO.

LONDON, September 20th, 1873.

JOSEPH ARON, Esq.,
President Sutro Tunnel,

My dear Sir,—On the 17th of August the agreements entered into between myself as attorney for the Sutro Tunnel Co. and Messrs. McCalmont Brothers & Co. in regard to a Mortgage to be executed for £1.600.000 and the issue of part thereof for £600.000 to be made shortly. I requested you in said letter to keep the said document in your possession until further instructions. This I did at the special request of Messrs. McCalmont Brothers, who made it a point that no communication should be made until as short time as possible previous to the final consumation of the whole affair amongst their friends. On the 13th I forwarded to the Secretary Original agreement and another Copy of the Mortgage, with the request that they be ratified in accordance with the terms of the same. Please see that the agreements are ratified now and everything ready as quick as possible, &c., &c.

(Signed) ADOLPH SUTRO.

LONDON, September 27th, 1873.

J. ARON, Esq.,

The Bonds are all printed and are now being bound in Books of 500 each, 3000 must be signed by you and the Secretary. They go forward by Wells Fargo express and have to be immediately returned to Europe.

(Signed) A. SUTRO.

28, CONDUIT STREET, LONDON, Jan. 12th, 1874.

JOSEPH ARON, Esq.,

My dear Joe,—My worst fears are more than realised; our loan is gone where the woodbine twineth!—the £100.000 which had been actually subscribed have not only not been much increased, but some have withdrawn their names, and it is quite evident that McCalmont will make no allotment.

I have just telegraphed to you, "Agony, anon, stop amateur. Remove address. Amend. Pay Rogers Rands account." As the rats desert the sinking ships, so did Seligman urge me to-day to telegraph you to have my private account settled with them; that is to say, what is charged as my private account, but what is really to a large extent the Co.'s.

Do not despair of my success, my dear Joe: it takes a good many worse reverses before I give up the ship; I know we shall yet succeed, and feel all the more proud of it for the great difficulties encountered.

I shall very likely sail on the 17th inst., on the Assyrian. I must get to Washington, for I know my enemies are conspiring.

Please do try to get some evidence that they have raised, or endeavored to raise, money to fight or defeat us, or test our rigths, no matter which; but get me some sworn evidence that such a thing has been attemped; if you can't get a sworn statement write me a letter giving all the particulars as far as known.

To-morrow the loan closes, but I know it is a gone case.

Very truly, your friend,
ADOLPH SUTRO

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(1) Mr. Adolph Sutro is now a resident of San Francisco (California), and from the proceeds of the shares he sold to the miners and laboring men he purchased "**Sutro Heights,**" rendered historical by the *Sutro Luncheon,* given by him to the President of the United States, Mr. Harrison.

(See *Morning Call*, April 28th, 1891.)

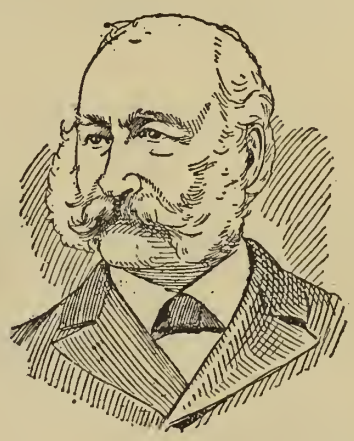
Portrait of ADOLPH SUTRO in 1873 ordered by himself to be engraved on the Sutro Tunnel Bonds offered by advertisement in the London "Times" of January 6th, 1874.

AS SUTRO IS

Adolph Sutro is a man above the average height. He would be tall if he were not a trifle round-shouldered. He is stoutly built, though not unduly fleshy, and his firm figure to-day speaks eloquently of the time when he must have been a splendid athlete.

His face is a study. David Neal, the artist who painted it, praises it eloquently from an artistic point. Men disagree whether firmness or benevolence is more strongly marked by its lines, but both are there to an unusual extent.

He wears his whiskers after the fashion of Emperor William, and they are of snowy whiteness. The mustache is iron gray,



ADOLPH SUTRO (1892).

almost black near the roots, and makes a striking contrast to his fleecy hair and side whiskers. The mustache, side whiskers, and hair of the head are thick and plentiful in growth, though immediately above the forehead there is a small spot which is nearly bald. The side whiskers—or Burnsides—are bushy but not long, and curl rather tightly, as does the hair of the head. His chin is clean shaven.

His eyes are only moderately large. They are neither blue nor gray, but decidedly a cross between the two. At times they have a faint bluish cast, but no one not color-blind could ever call them blue. Nor are they entirely gray.

He wears a soft felt hat, wide of brim and almost white in color. In the last ten years he has worn no other kind of hat, save the old-fashioned silk hat that he has appeared once or twice in at a funeral.

When walking he invariably carries a cane, a light thin bamboo or cane stick.

He is 62 years old, and four weeks ago weighed 168 pounds.

Mr. Sutro's eyesight is excellent. He does not wear glasses, nor has he ever worn them. He reads and writes even in gas-light by the naked eye, and is justly proud of it.

He wears invariably a black Prince Albert coat.

His general cast of countenance is of the Jewish type, the Semitic nose being a prominent though not displeasing feature of his face.

From much exercise in the saddle his face is florid, though not extremely so, as some described him.

These are the general and most striking characteristics of a man widely known for his mining and financial successes, and universally beloved for his private and public benevolences.

(From the *Morning Call*, San Francisco, Nov. 19, 1892.)

SUTRO TUNNEL.

CONTRACTS OF 1866

Mentioned in the London "Times" of January 6th, 1874, as being deposited at the office of Messrs. BIRCHAM, DALRYMPLE, DRAKE, and Co., 79. Gresham-house. Old Broad-street, London, E.C.

ARTICLES OF AGREEMENT, made and entered into this 29th day of March A. D. one thousand eight hundred and sixty-six, by and between WILLIAM M. STEWART, D. E. AVERY, LOUIS JANIN, JR., H. K. MITCHELL, and A. SUTRO, Trustees for the SUTRO TUNNEL COMPANY, parties of the first part, and the GOULD AND CURRY MINING COMPANY, a corporation doing business in the county of Storey, State of Nevada, party of the second part.

WHEREAS, by an Act of the LEGISLATURE OF THE STATE OF NEVADA, entitled, "*An Act granting the right of way, and authorizing A. Sutro and his associates to construct a Mining and Draining Tunnel," approved February 4th,* 1865, the Legislature of said State granted to the said A. SUTRO and his associates, his and their successors and assigns, for the period of fifty years from and after the approval of said Act, the exclusive privilege to run, construct and excavate a tunnel running into the Comstock Lode from any point in the foot-hills of the Carson River Valley, within the boundaries of the county of Lyon, and between Webber Cañon and Corral Cañon; and also granted other rights and privileges, which fully appear in said Act;

AND WHEREAS, the said A. SUTRO, and the above-named WILLIAM M. STEWART, D. E. AVERY, LOUIS JANIN, JR., and HENRY K. MITCHELL, have associated themselves together, under the name and style of "THE SUTRO TUNNEL COMPANY" for the purpose of running and completing said tunnel in accordance with the terms and conditions of said legislative enactment;

AND WHEREAS, all corporations, associations, companies and individuals, owning or interested in the said Comstock Lode, are beneficially interested, by the drainage of their respective mines on the Comstock Lode, in the speedy completion of the said tunnel;

AND WHEREAS, the party of the second part is the owner of, in possession of, and working upon that certain portion of the said Comstock Lode in the county and State aforesaid, known as the GOULD AND CURRY MINING COMPANY'S MINE; and as such owner is beneficially interested in the early completion of said tunnel, for the purposes of drainage aforesaid, and other conveniences thereby to be afforded: Now, THEREFORE, these ARTICLES witness:

ARTICLE I. The parties of the first part, in consideration of the premises, and in consideration of the covenants and agreements hereinafter mentioned, to be kept and performed by the party of the second part, covenant and agree to and with the party of the second part, that the parties of the first part will, on or before the first day of August, 1867, commence and with reasonable energy and vigor, and at their own expense, run, excavate and complete the tunnel and lateral drifts hereinafter mentioned, and put the same in condition for use, in accordance with the provisions of the said Act of the Legislature of the State of Nevada, and with the covenants in this agreement contained, for the purpose of draining the mines on the said Comstock Lode and furnishing other conveniences for working the same.

ART. II. The said tunnel shall commence at some point in the foot hills of Carson Valley, between Corral Cañon and Webber Cañon, within the county of Lyon, and shall extend to, and cut, and pass through, the said Comstock Lode to its western wall, at some point between the north line of the claim of the Ophir Silver Mining Company, and the south line of the claim of the Yellow Jacket Company, at a depth of not less than one thousand eight hundred feet below the top of what is known as the Gould and Curry croppings.

ART. III. The parties of the first part covenant and agree that the work shall be commenced at the time specified, by running the tunnel from the foot hills of Carson Valley; and also by simultaneously sinking at least three shafts of sufficient capacity on the line of the tunnel, and when the shafts have reached the depth required for the level of the tunnel, then to drift in both directions from the bottom of each shaft, so that there shall be at least seven places of excavation going on, from the time that all of the shafs shall reach the requisite level, all the time until the tunnel is completed, unless connections between some of the shafts are sooner made; and the said work at all times shall be prosecuted continuously and without any interruption, except from unavoidable accident, until the completion of the tunnel, and of the works which under this agreement are to be considered as draining the mine of the party of the second part; and in case of any such interruption occurring, the cause thereof shall be removed or remedied and the work resumed without delay.

And the parties of the first part covenant and agree, that on or before the said first day of August, 1867, there shall have been subscribed, in good faith and by apparently responsible persons, at least the sum of three millions of dollars for the purpose of carrying on and completing said tunnel and the lateral drifts hereinafter mentioned; that of said sum at least ten per cent. shall have been actually paid in cash; that during the first year in which the work shall be prosecuted, commencing on said first day of August, 1867, there shall be expended upon, or on account of the work, not less than the sum of four hundred thousand dollars, and during each succeeding year thereafter, until the work shall be completed so as to drain the mine of the party of the second part within the meaning of this agreement, not less than the sum of two hundred thousand dollars; provided that this amount can be advantageously expended after the completion of the main tunnel, and that they, the parties of the first part, will, within thirty days after the expiration of each year, furnish to the party of the second part, a full, true and correct statement of the expenditures made on account of the work during such year, verified by the oath of the managing agent and secretary or book-keeper of the parties of the first part.

ART. IV. If the work shall not be commenced on or before the said day, and with said sum of three millions of dollars subscribed, and ten per cent. thereof actually paid in cash, as hereinbefore provided, or if, after so commencing, the parties of the first part shall during any year fail to expend on account of the work the sum of money hereinbefore agreed to be expended during such year, this agreement shall, at the option of the party of the second part, cease and determine, and thereafter be of no effect. And if, after the work shall have been commenced, it shall not be continuously prosecuted, as hereinbefore agreed, the party of the second part, in conjunction with other companies or corporations with which the parties of the first part may have entered into similar agreements, and which may desire to unite with the party of the second part in so doing, shall have the right to enter and take possession, and complete the work, or have it completed under contracts, at the expense of the parties of the first part, deducting the costs of its completion from the first moneys becoming due to the parties of the first part under this agreement.

ART. V. The parties of the first part further covenant and agree that, in the event they shall fail in obtaining subscriptions for the sum of three millions of dollars, or if the sum of three hundred thousand dollars shall not have been actually paid in cash, as hereinbefore agreed, on the said first day of August, 1867, then the said parties of the first part shall and will, if the party of the second part desire it, sell and convey within six months thereafter, the said franchisogranted to A. Sutro by said Act of the Legislature of the State of Nevada, of February 4th, 1865, and also three hundred and twenty acres of land at and including the mouth of said tunnel, to be selected by the purchasers, in one body and in a square or rectangular form, and the length not to exceed twice the width, to the said parties of the second part, and to the other mining companies which have entered or shall enter into like contracts with the said parties of the first part, and shall join in the purchase, for the sum or price of one hundred thousand dollars, each company paying thereof its *pro rata*, according to the number of feet of ground owned by each.

ART. VI. The dimensions of said tunnel shall be not less than seven feet in height in the clear, and eight feet in the clear in width. It shall have a grade of not less than one inch to the hundred feet, and on the floor two substantial railways shall be laid down for the running of cars to and from the mines, and sufficient for the transportation of all materials to be used in said mine, and to convey all ore, debris, earth, and rock from the mine to the mouth of the tunnel. And the said tunnel shall also have capacity to carry all water running into it from any source, and to discharge the same at the mouth thereof.

ART. VII. If the said main tunnel shall intersect the said Comstock Lode outside of the northern and southern boundaries of the mine of the party of the second part, the parties of the first part shall excavate or run a lateral drift, either within said Comstock Lode, or at any point not exceeding five hundred feet from and east of the west wall thereof, to a point from which a drift at right angles from said lateral drift will cut the said Comstock Lode between the north and south boundaries of the claim of the party of the second part; such lateral drift shall be of sufficient height and width to allow the free flow of all water coming into the same, also for the laying down of a double railroad track, and for the transportation of timber and other materials to said mine, and conveying of ores, earth, rock and debris therefrom, and such railways shall be laid down by the parties of the first part the entire length of such lateral drift, and the grade thereof shall be the same as in the main tunnel.

ART. VIII. After the completion of the tunnel and such lateral drifts as may be necessary to comply with the preceding Articles, the party of the second part shall have the privilege to enter into said tunnel and the lateral drift, and to work through the same, having ingress thereto and egress therefrom, and to excavate and run any drift or drifts necessary to cut said Comstock Lode within the boundaries of the claim of said party of the second part, and to connect such lateral drift with the mine and mining works of said party of the second part, in such manner and by means of such drifts or other work as the party of the second part may think proper for the purpose of draining and conveniently working its mine.

ART. IX. The parties of the first part, from and after the completion of said tunnel—if the same intersects said lode within the northern and southern lines of the said second party's claim—or if not, then from and after the time when the parties of the first part shall have extended their lateral drift to a point opposite the claim of the party of the second part, and from which the party of the second part desire to make any connection between said lateral drift and its own works, shall convey, by means of said tunnel, drifts and railways, from the mouth of the tunnel to the point at which the drifts or works of the party of the second part connect with the drift or tunnel of the parties of the first part, all trustees, officers, agents and employees, who may desire to go into said mine, and shall also by the same means convey them from the same point to the mouth of the tunnel, such conveyance to be made whenever the same is desired by the party of the second part, and in as expeditious a manner as the nature of the case will allow, and without any unreasonable delay.

And the parties of the first part shall, after the time in this Article mentioned, also convey to the same point from the mouth of the tunnel, all timber, material, tools, machinery and implements for mining, which the party of the second part may desire to use in its said mine, and shall also from said point of connection, convey to any point designated by the party of the second part, outside of the tunnel, and not more than one thousand feet from the mouth of the tunnel, all ore, rock, earth and debris which said party of the second part may desire to remove from its said mine or works.

ART. X. The parties of the first part shall keep the said tunnel, and their own lateral drifts and railways and machinery for transportation as aforesaid, in good condition, so as not to interrupt or delay the party of the second part in the transportation of its officers, agents and employees, or the materials as aforesaid, to and from said second party's mine, and shall also keep said tunnel open for the free flow of all waters coming into it, or into said drifts, for the full drainage of said mine; and in the event that any accident should occur, or the works aforesaid should in any manner be rendered unfit for said purposes, the same shall be remedied with reasonable dispatch, and without unnecessary delay. And should there be any obstructions to the flow of water through said tunnel or lateral drift, so as to retard the drainage of the said second party's mine, such obstructions shall be removed as soon as possible according to the circumstances; and if the parties of the first part shall fail, within a reasonable time, to remove such obstructions or to put said tunnel and their own lateral drifts, railways, or machinery, in good condition, the party of the second part shall

have the right to enter and remove such obstructions, or make any needful repairs, at the expense of the parties of the first part.

ART. XI. The parties of the first part further agree, that the prosecution of said work shall be as diligent and vigorous as the circumstances and the nature of the work will allow, and that the completion thereof shall not be unreasonably delayed.

ART. XII. In consideration of the foregoing covenants and agreements to be kept and performed by the parties of the first part, and for valuable considerations from the parties of the first part moving, to the party of the second part, the said second party covenants and agrees to pay to the parties of the first part two dollars per ton for all ore extracted from the mine of said second party, after the works of said first parties shall have drained the said second party's mine, so as to render all other means of drainage unnecessary to the lowest level attained; provided such level is not lower than the level of the tunnel herein provided for. Also, during the time when said party of the second part shall use said tunnel or drifts as means of transportation as hereinbefore contracted for, the party of the second part will pay to the parties of the first part for each ton of ore, rock, earth or debris removed from the point hereinbefore designated, to or beyond the mouth of the tunnel, as the case may be, the sum of twenty-five cents per mile from the place of removing it, to the place of discharging it, and at the same rate for all material conveyed from the mouth of the tunnel to said point of connection heretofore described, forty cubic feet of timber, or twenty-two hundred and forty pounds of rock, ore or other material being considered a ton, and will also pay the said parties of the first part the sum of twenty-five cents each way for each man conveyed from the said point, at the request of, or on account of the said second party; all laborers, employees, agents and other persons connected with the said corporation of the second part, to be included and paid for as above stated. And if at any time the mining works of the party of the second part shall reach a level lower than the level of the tunnel aforesaid, the party of the second part shall be permitted, by means of pumps, or otherwise, to raise water from such lower level to the level of said tunnel or lateral drift, and the water so raised shall be discharged by means of the tunnel, as if the same were struck on or above such level. *Provided* that the party of the second part shall only pay to the parties of the first part said sum of two dollars per ton on the ore extracted which said second party shall have reduced at some mill or other reduction works, or shall have sold; *and provided further*, that no such payment shall be due or made, until the works of the parties of the first part shall have either actually drained said mine, so as to obviate the necessity for all other modes of drainage, or shall be prosecuted to the extent in the next article mentioned, which shall be deemed and considered sufficient drainage within the meaning of this agreement; *and provided further*, that said sum of two dollars per ton shall only be due and payable during such time or times as the said works shall actually drain said mine as aforesaid, or shall be in good condition to the extent in the next article mentioned; and no sum of money shall be due or payable to the parties of the first part, on account of ores extracted, during any time or times when the said second party's mine is not drained, by reason of any obstruction or defect in the tunnel or drifts of the said first parties.

ART. XIII. It is mutually agreed, that the true intent and meaning of these articles, as to the draining of the mine of the party of the second part, are, that whenever the said mine is actually drained by the works of the said first parties, so as to render all other means of drainage useless, to the lowest level attained by the works of the said party of the second part, but not lower than to the level of the tunnel, the same shall be deemed a full compliance with the covenant of the parties of the first part for the drainage thereof, and whether said mine be actually so drained or not, it shall be deemed and considered drained within the meaning of this agreement, in either of the following events:

If the main tunnel shall intersect the Comstock Lode, and cut the eastern wall thereof, between the north and south boundaries of the mine of the said second party, the mine shall be considered drained.

Or it shall be considered drained, if the main tunnel shall cut said eastern wall outside of those lines, and the parties of the first part shall extend the lateral drift hereinbefore covenanted to be extended within said Comstock vein, to a point equidistant from such north and south boundaries.

Or it shall be considered drained, upon the expiration of three months after the parties of the first part shall have extended said drift outside of said lode, but within five hundred feet east of the west wall thereof, to a point not more than five hundred feet east of said west wall, whence a drift at right angles would enter said lode at a point equidistant from the northern and southern boundaries of the claim of the second party.

ART. XIV. The party of the second part, after the completion of the works aforesaid according to the meaning and intent of the preceding article, agrees and binds itself to furnish to the parties of the first part, on the fifth day of each and every month (unless that day be Sunday, and in that event on the sixth day), a full, fair and just account of each ton of ore extracted from its mine and reduced at some mill or other reduction works, or sold for such reduction, during the month preceding, or which may have been sent by the party of the second part to such mill or other reduction works to be reduced; and on the day of rendering such account, or within three days thereafter, shall pay to the parties of the first part the said sum of two dollars for each ton of ore so extracted, and on the same day shall pay such other sum as may be due for the transportation or conveyance of the workmen, or other persons, and of ores, rock, debris, timber, and other material, to or from said mine: *Provided*, that if, during the month preceding, the mine of the party of the second part shall not have been drained, by reason of any defect or obstruction in the works of said parties of the first part, the said sum of two dollars per ton on account of ores so extracted during the time such obstruction existed, shall not be due or payable, but only the sums due for other causes shall be due and payable at such time.

ART. XV. **If any question should arise between the parties to this agreement**, either in respect to the time when the mine of the party of the second part shall have been drained in accordance with the foregoing articles, and the payment of two dollars per ton for ore extracted should commence, or in respect to the amount of money at any time due or payable from the party of the second part to the parties of the first part, it is agreed such question shall be determined by each party choosing one competent and disinterested person as an arbitrator; and in the event of disagreement between such arbitrators, they shall choose a third competent and disinterested person; the arbitrators shall be sworn, and a majority of the three may decide the disagreement between the parties hereto, and their decision shall be final. For the purpose of deciding such issue, the arbitrators, in the presence of each party, or upon reasonable notice thereof in writing, may receive evidence of witnesses, or other proofs; and either party, in the presence of the other, or upon reasonable notice in writing, may produce evidence before the arbitrators so chosen. The decision of the arbitrators shall in every case be made in writing, and it shall be binding and effectual from the time that a copy thereof, certified by the arbitrators, or a majority of them, shall have been delivered to both parties.

ART. XVI. If the parties of the first part shall, at any time, enter into any agreement with any other person, company or corporation holding a mine upon the Comstock Lode, in respect to drainage, transportation, or other advantage derived from the works of the parties of the first part, upon terms more favorable to such person, company or corporation than those herein contained, the party of the second part shall be entitled, at its option, to all the benefits thereof, as fully and to the same extent as if they were herein set forth and made part of this agreement.

ART. XVII. Each and every of the articles of this agreement shall be binding, and of full force against each party hereto, and upon the assigns and successors thereof, and said assigns or successors shall be entitled to all the benefits and privileges thereof as if the same were in each article distinctly set forth. And it is agreed, that if the said corporation, party of the second part, should in any manner be dissolved, or if it should convey the said mine, the grantees and successors of said corporation shall take the said mine subject to the conditions and obligations of this agreement, which it is agreed shall constitute and be a lien in law and equity on said mine, for the faithful carrying out of the covenants herein contained.

ART. XVIII. It is agreed that all payments provided in this agreement to be made by the party of the second part to the parties of the first part, shall be made in gold coin, and not otherwise.

IN TESTIMONY WHEREOF, the said parties hereto set their names and affix their seals the day and year first above written; the name of the party of the second part being hereunto subscribed, and its corporate seal affixed, by Alpheus Bull, President, and J. N. Shotwell, Secretary, duly authorised by a resolution of the Board of Trustees of said party; these presents being executed in triplicate.

WM. M. STEWART, SEAL.

ADOLPH SUTRO, SEAL.

LOUIS JANIN, SEAL.

HENRY K. MITCHELL, SEAL.

D. E. AVERY, SEAL.

GOULD AND CURRY MINING CO.:

corporate seal of the Gould and Curry Mining Co.

ALPHEUS BULL, PRESIDENT.

J. N. SHOTWELL, SECRETARY.

State of California
City and County of San Francisco } ss.

On this 29th of March, A. D. 1866, before me, Otis V. Sawyer, a Commissioner of Deeds, for the State of Nevada, duly commissioned and sworn, residing in said city and county of San Francisco, personally appeared the above named Alpheus Bull, President and J. N. Shotwell, Secretary of the Gould & Curry Mining Company, whose names are subscribed to the foregoing instrument, personally known to me to be the individuals described in and who executed the said instrument, who acknowledged to me that on behalf of the said Gould & Curry Mining Company they executed the same freely and voluntarily, and for the uses and purposes therein mentioned.

NOTARIAL SEAL.

In witness whereof I have hereunto set my hand and affixed my official seal, the day and year in this certificate first above written.
OTIS V. SAWYER,
A Commissioner of Deeds for the State of Nevada.

State of Nevada,
County of Storey. } ss.

On this twenty-eighth day of April, A. D. one thousand eight hundred and sixty six, before me, H. M. Morgan, Notary Public in and for said county, duly commissioned and sworn, and residing in the city of Virginia, personally appeared the above-named Adolph Sutro, Henry K. Mitchell, Lewis Janin, Jr., and D. E. Avery, whose names are subscribed to the foregoing instrument, as parties thereto, personally known to me to be the individuals described in and who executed the said foregoing instrument, and acknowledged to me that they executed the same freely and voluntarily, and for the uses and purposes therein mentioned.

NOTARIAL

In witness whereof I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.
H. MORGAN, Notary Public.

State of New York,
City and County of New York. } ss.

On this eighth day of August, A. D. one thousand eight hundred and sixty-six before me, C. von Hesse, a Commissioner of Nevada, duly commissioned and sworn residing in the city of New York, personally appeared the above named Wm. M. Stewart, whose name is subscribed to the foregoing instrument as a party thereto, personally known to me to be the individual described in and who executed the said foregoing instrument, and acknowledged to me that he executed the same freely and voluntarily, and for the uses and purposes therein mentioned.

NOTARIAL SEAL

In witness whereof I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.
CHRISTIAN VON HESSE, Commissioner for Nevada

Similar Agreements were also entered into by the following companies :—

SEAL OF THE COMPANY.

Savage Mining Co. Signed by Alpheus Bull, President, and E. B. Holmes, Secretary. Acknowledged at San Francisco, April 3, 1866, before Otis V. Sawyer, Commissioner of Deeds for the State of Nevada.

Ditto.

Confidence Silver Mining Company. Signed by Geo. W. Stewart, President, and R. Wegener, Secretary. Acknowledged, San Francisco, April 9, before George T. Knox, Commissioner for Nevada.

Ditto.

Hale & Norcross Silver Mining Company. Signed by Geo. S. Mann, President, and Joel F. Lightner, Secretary. Acknowledged, San Francisco, April 11, 1866, before Henry Haight, Commissioner for Nevada.

Ditto.

Crown Point Gold and Silver Mining Company. Signed by A. H. Barker, President, and J. H. Jones, Secretary. Acknowledged, San Francisco, April 12, 1866, before Henry Haight, Commissioner for the State of Nevada.

Ditto.

White & Murphy Gold and Silver Mining Company. Signed by D. N. Walter, President, and Jas. P. Nourse, Secretary. Acknowledged, San Francisco, April 12, 1866, before F. J. Thibault, Commissioner for Nevada.

Ditto.

Empire Mill and Mining Company. Signed by Squire P. Dewey, President, and Geo. R. Spinney, Secretary. Acknowledged, San Francisco, April 14th, 1866, before F. J. Thibault, Commissioner for Nevada.

Ditto.

Ophir Silver Mining Company. Signed by Wm. Blanding, President, and Thos. J. Lamb, Secretary. Acknowledged, San Francisco, April 16, 1866, before Henry Haight, Commissioner for Nevada.

Ditto.

Bacon Mill and Mining Company. Signed by C. L. Low, President, and W. E. Dean, Secretary. Acknowledged, San Francisco, April 19, 1866, before Henry Haight, Commissioner for Nevada.

Ditto.

Gold Hill Quartz Mill and Mining Company. Signed by Ottaviano Gori, President, and Wm. Y. Garvey, Secretary. Acknowledged, San Francisco, April 19, 1866, before Henry Haight, Commissioner for Nevada.

Ditto,

Imperial Silver Mining Company. Signed by G. F. Lawton, President, and David A. Jennings, Secretary. Acknowledged, San Francisco, April 17, 1866, before Henry Haight, Commissioner for Nevada.

Ditto.

Overman Silver Mining Company. Signed by Jas. J. Robbins, President, and Gomer Evans, Secretary. Acknowledged, San Francisco, April 19, 1866, before Henry Haight, Commissioner for Nevada.

Ditto.

California Silver Mining Company. Signed by Wm. E. Barron, President, and George Staacke, Secretary. Acknowledged, San Francisco, April 20, 1866, before Henry Haight, Commissioner of Deeds for Nevada.

Ditto.

Chollar-Potosi Mining Company. Signed by A. K. P. Harmon, President, and W. E. Dean, Secretary. Acknowledged, San Francisco, April 20, 1866, before E. P. Peckham, Commissioner for Nevada.

Ditto.

Best & Belcher Mining Company. Signed by Wm. M. Lent, President, and Wm. Willis, Secretary. Acknowledged, San Francisco, April 20, 1866, before Henry Haight, Commissioner for Nevada.

Ditto.

Yellow Jacket Silver Mining Company. Signed by John B. Winters, President, and Wm. H. Watson, Secretary. Acknowledged, Gold Hill, Nevada, April 25, 1866, before Wm. E. Hale, Notary Public.

Ditto.

Alpha Gold Hill Mining Company. Signed by Thomas Sunderland, President *pro tem.*, and Theo. A. Hale, Secretary. Acknowledged, Gold Hill, Nevada, April 25, 1866, before Wm. E. Hale, Notary Public.

Ditto.

Belcher Company. Signed by F. A. Tritle, President, and H. Bruckmann, Secretary. Acknowledged, Virginia City, Nevada, April 27, 1866, before H. M. Morgan, Notary Public.

Ditto.

Central Silver Mining Company. Signed by B. F. Sherwood, President, and J. S. Burgess, Secretary. Acknowledged, San Francisco, May 9, 1866, before Henry Haight, Commissioner of Deeds for Nevada.

Ditto.

Guido Küstel, Ch. V. Beseler, Miranda Beseler. Acknowledged, San Francisco, April 21, 1866, before Henry Haight, Commissioner for Nevada.

Ditto.

Thomas B. Howard, Mary B. Howard Acknowledged, San Francisco, April 25, 1866 before Henry Haight, Commissioner for Nevada.

Ditto.

A. Hirschman, Louis Gerstle. Acknowledged, San Francisco, May 2, 1866, before Henry Haight, Commissioner for Nevada.

SIX PENCE

Memorandum of Agreement made this twenty sixth day of October in the year of our Lord one thousand eight hundred and seventy four. Between Messrs McCalmont Brothers & Co of 15 Philpot Lane in the City of London Merchants of the first part Adolph Sutro of Sutro City Nevada in the United States of America of the second part and Robert McCalmont Hugh McCalmont and William Johnstone Newall of 15 Philpot Lane aforesaid Merchants who and their successors in office are hereinafter called the Trustees of the third part

Messrs McCalmont Brothers & Co are the holders of seven hundred and fifty five thousand shares of ten dollars each in the Sutro Tunnel Company a Company established and incorporated at San Francisco under the laws of California hereinafter called the Company and Mr Sutro is the holder of three hundred and fifty thousand similar shares in the same Company.

Messrs McCalmont Brothers and Co and Mr Sutro think it desirable with a view to their large interest in the Company to agree upon a common course of action as hereinafter explained with reference to the shares respectively held by them and that to secure the carrying out of that course the shares held by them respectively should be put into the hands of the trustees upon trust to carry the same into effect

Now these presents witness that in consideration of the mutual promises and agreements hereafter contained the parties hereto do hereby promise and agree with and to each other as follows each of the parties agreeing for the acts to be done by them respectively

Article 1. Messrs McCalmont Brothers & Co and Mr Sutro shall with all reasonable speed respectively endorse the certificates of the shares in the Company held by them and deposit the said certificates in the hands of the trustees in London If either party does not duly endorse and deposit their or her shares the other party shall not be bound to endorse and deposit their or her shares and if endorsed and deposited shall be entitled to the return thereof Such time as shall be reasonably necessary having regard to the distance shall be allowed to Mr Sutro for sending to the trustees his share certificates The endorsement shall be to the said Robert McCalmont Hugh McCalmont and William Johnstone Newall in the form required to transfer shares in the Company without any reference to this agreement or statement of the trusts and purposes of this transfer

Article 2. The trustees shall not present the said certificates for registration in their names unless it shall be necessary to do so in order to give effect to this agreement or unless there shall be reasonable ground for believing that there was danger if the shares were left in the names in which they at present stand of the provisions of this agreement being defeated or embarrassed but in the latter case they shall give notice in writing to Mr Sutro of their intention by registered letter addressed to him at Sutro City and shall not tender the shares for registration in their own names till the expiration of sixty days after posting the said letter in London.

Article 3. Some of the said shares shall during the continuance of the trust which is hereby fixed at three years from the date hereof be sold pledged or otherwise disposed of by the trustees without the consent in writing of both Messrs McCalmont Brothers ~~and~~ or the survivors or survivor of them his executors or administrators and of Mr Sutro his executors or administrators

Article 4 If any shares shall be sold by consent as mentioned in the preceding article they shall be considered as taken from the shares belonging to Messrs McCalmont Brothers and those belonging to Mr Sutro in proportion to the number of shares transferred by them respectively to the trustees and the proceeds shall be paid and ~~been~~ ~~found~~ divided to and between them by the trustees in the said proportion

Article 5 Neither Messrs McCalmont Brothers nor Mr Sutro nor their respective executors administrators and assigns shall have the right to withdraw from the hands of the trustees the shares deposited by them respectively or any part thereof until the expiration of the said three years at the expiration of which time the said shares or such part of them as shall not have been sold under the provisions of this agreement shall be returned to the parties depositing the same or their executors or administrators

Article 6. If the trustees shall sell any of the said shares without such consent as is mentioned in article 3 they shall pay and divide to and between Messrs McCalmont Brothers and Mr Sutro in the proportions of the shares deposited by them

A. The amount of the shares sold taken at par & the proceeds of the sale of ~~taken~~ above par

B. The sum of Fifty pounds per share sold as and by way of liquidated and agreed damages for the disarrangement of the plans for common outlets and this payment shall not be taken to be a penalty

Clause 7 During the continuance of the trust the votes upon the shares included therein shall be given by Messrs McCalmont Brothers and Mr Sutro and their respective executors and administrators before registration in the names of the trustees and by the trustees themselves after such registration in favour of maintaining in office the present Board of Directors or such Board as may be agreed upon between Messrs McCalmont Brothers and Co and Mr Sutro and of maintaining in office Mr Sutro as General Superintendent so long as the said Directors and Mr Sutro shall respectively well conduct themselves in their respective offices in carrying out and completing the tramway which has been commenced.

Clause 8 If either of the trustees shall die resign or becomes incapable of acting in the trusts of this agreement a new trustee or trustees shall be appointed by the surviving trustee or by the executors or administrators of the last surviving trustee and the shares for the time being subject to the trusts of these presents shall be vested in the new trustee or trustees jointly with the surviving or continuing trustees if any and the new trustees so appointed shall have all the powers of the trustees hereby appointed. If for any reason the appointment of a new trustee or new trustees under the preceding provisions cannot be made the Court of Chancery of England or any Court which may succeed to its jurisdiction may upon application by Messrs McCalmont Bros or Mr Sutro their respective executors or administrators appoint a new trustee or trustees with the same powers rights and duties as those hereby appointed:

Clause 9 The trustees shall not be responsible for pecuniary losses or accidents or for the default of persons whom they shall employ but simply for their own wilful misconduct

Artcl. 19 All parties to these presents will do all things which on their respective parts shall be necessary or expedient in order to give full effect to the arrangements hereby expressed or intended to be made

As witness the hands of the parties hereto this thirteenth day of December One thousand eight hundred and seventy four a duplicate of this agreement having been signed by all the parties hereto other than the Sureties and by the Crown or his attorney on the day and year first above written

Wm Galbraith Pro Mcq

Rudolph Stutzer

Robt McGalbraith

H W Schwartz

W L Newall

This memorandum of agreement made this twentieth day of May one thousand eight hundred & sixty six between Alexander McCalmont Bros & Co of 15 Philpot Lane in the City of London Merchants of the first part George Peters of Saint Louis City Missouri in the United States of America of the second part and Robert McCalmont, Hugh McCalmont and William Newton Newall of 15 Philpot Lane aforesaid merchants who and their successors in office are hereinafter called the trustees of the third part. —

Messrs. McCalmont Brothers & Co were at the date of the agreement next hereinafter recited the holders of six hundred and fifty four thousand shares of ten dollars each in the Saint Louis Company a company established and incorporated at San Francisco under the laws of California hereinafter called the Company and the said Peters was at the same date the holder of three hundred and fifty thousand shares in the same company.

By an agreement between the parties hereto dated twenty eighth October one thousand eight hundred and sixty four (Article 1) Messrs McCalmont Brothers & Co and the said Peters respectively agreed to endorse the certificates of the said shares in the Company held by them respectively and deposit the said certificates in the hands of the trustees in London and (Article 3) it was agreed that none of the said shares should during the continuance of the trust which was thereby fixed at three years from the date of the above recited agreement be sold pledged or otherwise disposed of by the trustees without the consent in writing of both Messrs McCalmont Bros & Co and the said Peters and (Article 4) provisions were made as to the appointment of jobs secured by such consent and (Article 5) it was agreed that neither Messrs McCalmont Bros & Co nor the said Peters should have the right to withdraw from the hands of the trustees the shares deposited by them respectively until the expiration of the said three years, at the expiration of which time the said shares or such of them as should not have been sold under the provisions of the above recited agreement were to be returned to the parties respectively the same and certain other provisions were made concerning the said shares and trustees. Messrs McCalmont Bros & Co and the said Peters have agreed to prolong the period during which the said shares shall remain in deposit as hereinafter mentioned. —

Now this agreement witnesseth that the parties hereto do hereby agree with each other that the period of three years mentioned in the hereinbefore recited agreement as that during which the said shares should remain deposited with the trustees shall be extended to five years from the date of the said agreement which period of five years is hereby fixed for the continuance of the trust thereby created and that the said agreement shall be throughout read and construed as if five years had been therein throughout substituted for three years. —

In witness the hands of the parties hereto the ~~year~~ day and year first above written. —

(Signed) McCalmont Bros & Co

~~A true~~ signed by him in the presence of Hugh McCalmont

Newton Newall. —

George Peters

PHOTOGRAPHED

FROM THE

"Times,"

LONDON, JANUARY 6, 1874.

Messrs. M'Calmont, Brothers, and Co. have invited subscriptions for 600,000*l.* 8 per cent. first mortgage bonds of the Sutro Tunnel and Railway Company, at the price of 82, in instalments extending to the 15th of September. The undertaking, which is one of the most remarkable ever devised, has been for some time in progress, and is authorized by special Act of the United States Congress. It consists of a mountain tunnel four miles in length, which is to intersect in its course the great Comstock gold and silver lode, at a point where it is about 640 yards below the surface, and thus by a double line of railway to enable the ores to be extracted and carried free from the cost and difficulties of upward haulage, which at present absorbs an immense portion of the yield. More than a quarter of the distance has already been penetrated, and the whole is expected to be completed within two years and a half. According to the report of a commission appointed by the President, under authority of Congress, the mines on the Comstock lode are "the most valuable in the world," and their present yield exceeds 3,000,000*l.* per annum, while that of the future, by means of the deep tunnel, may be "almost incalculable." It is added in the prospectus that, under the laws of Congress, the net *minimum* revenue from royalties, transportation, &c., based on the present production of the mines, is estimated at 370,000*l.* per annum, and in addition to that there is the title to any discoveries that may be made in the progress of the work, and also the value of township lands at each end of the line. There is likewise a prospect of the line becoming a junction for future railroads east and west. As regards its general features, however, the extent to which the work will command public attention will be mainly determined by any influence it may be likely to exercise on the supply of silver, a question which is yearly assuming increased importance.

THE SUTRO TUNNEL and RAILWAY.—ISSUE of £600,000 STERLING, or $3,000,000 GOLD 8 per CENT. FIRST MORTGAGE CONVERTIBLE BONDS, in Bonds to bearer, of £200 sterling or $1,000 each. Bearing interest at 8 per cent. per annum, from 1st April, 1874, payable half-yearly on 1st April and 1st October. Principal redeemable at par by annual drawings in 29 years, by an accumulative sinking fund of 1 per cent. per annum, the first drawing to be payable 1st of October, 1874. Interest and sinking fund secured by a cash deposit until April 1, 1877, before which it is expected the tunnel and railway will be completed. Principal and interest payable, at the holder's option, in London in sterling, or in New York or San Francisco in gold, free of all United States' taxes. The present issue of £600,000 Bonds will have the privilege of conversion, within the period hereunder specified, into shares of the Company at par. Issue price 82 per cent. The Sutro Tunnel Company is authorized by special Act of Congress of the United States of America.

Messrs. McCalmont, Brothers, and Co. are authorised by the Sutro Tunnel Company to receive subscriptions for £600,000 sterling, or $3,000,000 Gold, 8 per cent. First Mortgage Convertible Bonds of that Company.

The Sutro Tunnel, now in course of construction, will be about 7,000 yards or four miles in length (exclusive of branches), traversed throughout by a double line of railway. The object of this work is to reach the Great Comstock Gold and Silver Lode at a depth of about 640 yards below the surface, by means of a horizontal adit, and thus to provide greatly increased facilities for extracting and carrying out the ore from, and draining by gravitation, the numerous mines already at work and those yet to be opened on the lode.

The tunnel has thus far penetrated about 1,800 yards from its mouth, and the construction of the works is in full progress. A large plant of pumps and other machinery is at work at all necessary points. Of four shafts upon the line, one has been connected with the tunnel, and when the remainder reach the tunnel level, there will be additional faces to work from, and the rate of progress will be proportionately increased.

The distinctive features of the undertaking are, that the Company is entitled, by Act of Congress, to a royalty upon the produce of all the mines benefited by the tunnel. It will also possess the traffic from a whole mining district, in which there are already more than a hundred miles of underground workings, so that it will not be dependent on the success of any particular mines.

In order to provide ample funds for the completion of the tunnel and Railway, and, a margin in addition, for the construction of mills, reduction and other works, of a magnitude commensurate with the future of the enterprise, a first mortgage has been made of the tunnel, railway, water rights, franchises, and lands to Mr. Robert McCalmont, of Philpot-lane, and Mr. Isaac Seligman, of Angel-court, Throgmorton-street, London, as trustees, to cover a total nominal sum of £1,600,000 or $8,000,000 Bonds.

It is believed that the proceeds of the present issue will be sufficient to open the tunnel and railway to the Comstock Lode, although it is anticipated that at a later date, in order to obtain the full benefit of mineral lodes as developed, further issues may be made to erect reduction works and make other extensions and improvements of the Company's property. But in any case no further issue of Bonds will be made by the Company before 1876, and then only at a higher price than the present issue, except by consent of the trustees of the mortgage.

The net minimum revenue accruing to the Company under the laws of Congress from royalties, transportation, &c., and based merely on the present production of the mines, is estimated at £370,000 per annum, being more than twice the sum required to provide for the interest and sinking fund upon the entire mortgage of £1,600,000, should that amount ever be issued.

This revenue is entirely irrespective of much larger profits expected from mining developments, and concentration and reduction works.

The Comstock Lode is situate near the Carson River, in the State of Nevada, about 250 miles east of San Francisco, and 20 miles from the Pacific Railway, with which it is connected by a branch line. It has produced in gold and silver since its discovery in 1859, about $160,000,000, or £34,000,000 sterling, and the annual produce is steadily increasing.

In 1871 Congress passed an Act authorising the President to appoint a Board of Commissioners to examine and report upon the tunnel and the lode. The President thereupon appointed as Commissioners Major-General S. Wright and Foster, both of the Engineer corps of the United States Army, and Professor Wesley Newcomb, Civil and Mining Engineer, who made their report to the War Department of the United States.

This report was laid before Congress, and in February, 1873, the Mining Committee of the House of Representatives recommended the Government to assist in the completion of the tunnel by a loan of $2,000,000 at 5 per cent. per annum.

Congress having adjourned before the subject could be disposed of, its consideration is thus deferred. In the meantime it is thought advisable to procure the necessary funds by means of the present issue, rather than lose valuable time by awaiting the action of Congress.

The following are extracts from the Congressional Report:—

"2. The mines on the Comstock Lode are the most valuable in the world.

"4. Their present annual yield exceeds $15,000,000.

"5. Their future yield by means of a deep tunnel will be almost incalculable.

"6. Deep tunnels are necessary for the full development of our mining interests.

"7. The Sutro Tunnel is of the highest importance to the future profitable working of the mines upon the Comstock Lode.

"19. The construction of the tunnel is entirely feasible.

"20. It will cost from four to five millions of dollars.

"21. It will take from 2½ to 3½ years to complete it.

"22. It will be of immense benefit to the legitimate owners of the mines.

"23. It will establish a new basis of operations 2,000 feet below the surface.

"24. It will stimulate explorations on all parts of the Comstock Lode, and may increase its yield to 50 million dollars per annum.

"30. It will develope several new lodes in the course of its construction.

"31. Immense quantities of low grade ores exist in the Comstock Lode and other lodes out by the tunnel.

"32. These low grade ores can only be utilized by means of concentrating works.

"33. Extraordinary facilities exist at the mouth of the tunnel for the erection of improved concentrating and reduction works.

"34. The tunnel itself will furnish sufficient water for concentrating and amalgamating purposes.

"35. Cheap motive power can be secured with coal from the Rocky Mountains, and firewood floated down Carson River.

"48. The Sutro Tunnel is now in full progress of construction."

The full Report is, with other papers, for inspection at the office of Messrs. Bircham, Dalrymple, Drake, and Co., 79, Gresham-house, Old Broad-street, E.C.

The Commissioners state that, judging from the progress already made, the whole of the tunnel could be completed in about 3 3-10 years from date of their report (30th November, 1871), but that, if machinery be judiciously employed, this time can be reduced. It is expected that with the improved machinery since introduced, the tunnel will be completed within two years and a half from the present time.

The Commissioners append to their report a careful and detailed estimate of the total cost of the tunnel and branches as $4,418,322; much of the work represented in this estimate has been executed since the report was made. While the Great Comstock Lode is the cardinal point of the enterprise, important resources are expected from mineral developments during construction.

The official investigations and reports thus made prove the importance attached to the subject by the Federal Government, and confirm the value and prospects of the undertaking by the highest official authority in the United States.

The Comstock Lode forms part of the public lands under the control of the Federal Government of the United States, and Congress passed an Act, approved on the 25th July, 1866, of which a copy is annexed to the Prospectus, conferring rights, with a statement of the grants made thereby.

In pursuance of this Act of Congress, each and every grant made by the Government of the United States of mining rights upon the Comstock Lode contains an express condition that the grantees hold their mines subject to the provisions of the above cited Act for making the tunnel in the subsequent general mining laws passed by Congress, and respectively approved 9th July, 1870, and 10th May, 1872, the rights granted to Mr. Sutro by the Act of 25th July, 1866, are recognised and reserved.

The rights thus secured are therefore anterior to all others.

The Company has been incorporated according to the law of California for the purpose of taking over the privileges granted by the Act of Congress, and constructing and working the tunnel and railway.

The chief office of the Company is in San Francisco. The board of Directors is composed of the following gentlemen of that city, four of whom are nominees of the trustees of the mortgage—Mr. J. [illegible] Aron, Mr. Charles W. Brown, Mr. John B. Felton, Mr. B. Heydenfelt, Mr. Edward N. Hooper and Mr. Thomas C. Woodnutt, of Messrs. Cross and Co.; and Mr. [illegible], of the Anglo-Californian Bank (Limited).

The legal advisers of the Company in London are Messrs. Fresh fields, 5, Bank-buildings, Lothbury, E.C.

The authorized share capital of the Company is $26,000,000, of which $19,000,000 have been issued, and the proceeds expended in the acquisition of the franchises and lands, in bringing to either the necessary machinery and plant, and towards the construction of the tunnel and railway, and in the provision of a sum, which has been lodged with Messrs. McCalmont, Brothers, and Co., sufficient to provide for the interest and sinking fund of the present issue for three years from the 1st April, 1874, before which period it is expected that the works themselves will be productive.

The right granted to Mr. Sutro, including all mineral discoveries in a belt of land the total length of the tunnel and 4,000 feet in width have been made over to the Company. The site for the city of Sutro, at the mouth of the tunnel, has also been secured, together with about 5,000 acres of land, as well as extensive and valuable water rights upon the Carson river, all of which are included in the mortgage to the trustees.

Considerable sums will, it is expected, be received from the sale of building lots in the city of Sutro.

The Bonds will be of $1,000, or £200 each, bearing interest from the 1st April, 1874, at 8 per cent. per annum, payable half-yearly on the 1st April and 1st October in each year. The principal will be redeemable at par in 29 years by an accumulative sinking fund of 1 per cent. per annum, applicable by yearly drawings, to be made in London under the superintendence of the Trustees, the first drawing to be payable 1st October, 1874, the Company having the power to increase the sinking fund if it shall think fit.

The principal and interest of the Bonds will be payable at the holder's option, in London, at the office of Messrs. McCalmont, Brothers, and Co., in sterling; or in New York, at the office of Messrs. J. and W. Seligman and Co., or in San Francisco, at the Anglo-Californian Bank (Limited), in gold; free in all cases of all Federal, State, or Municipal taxes in the United States.

As a valuable privilege, holders of bonds will be entitled at any time before the expiration of six calendar months after the opening for traffic of the main tunnel from its mouth to the Comstock Lode, with a double track railroad, shall have taken place, and shall have been officially and publicly announced by the Company, to convert the Bonds now offered into shares of the Company of an equivalent nominal amount at par, that is to say, 100 shares of $10 each fully paid up for each bond of $1,000 or £200 sterling, upon depositing the Bonds with the coupons not due, at either of the places appointed for payment, with a notice addressed to the Company of the desire to effect the exchange.

The Bonds will be issued bearing interest from 1st April, 1874, at the price of 82 per cent., payable by instalments as follows:—

5 per cent. on Application
15 per cent. on Allotment
15 per cent. on 24 March, 1874
15 per cent. on 1st June, 1874
32 per cent. on 15th September, 1874

82 per cent.

Parties desiring to anticipate payments may do so on allotment, or on either of the above dates, under discount at the rate of 5 per cent. per annum.

Applications must be made on the annexed form, and lodged at Messrs. McCalmont, Brothers, and Co., 15, Philpot-lane, London, with a deposit of 5 per cent. on the nominal amount applied for.

Where no allotment is made the deposit will be returned in full.

In case a less number of Bonds is allotted than is applied for, the surplus of the deposit will be applied in whole or in part, as the case may be, to the payment of the amount due on allotment.

In default of payment of the respective instalments at their dates, all previous payments will be liable to forfeiture.

Scrip certificates to bearer will be issued in exchange for allotment letters as soon as possible, and will be exchanged for the Definitive Bonds as soon as the issue price is paid up.

Copies of the Act of the State of Nevada; the Contracts with the Companies; the Certificate of Incorporation and Bye-Laws of the Company; the Report of the United States Commissioners in 1872; the Report of the Mining Committee of the House of Representatives; the English Consular Reports; the mortgage and form of bond; and maps of the district and the workings can be inspected by any intending subscriber at the office of Messrs. Bircham, Dalrymple, Drake, and Co., 79, Gresham-house, Old Broad-street, London, E.C. A model of the tunnel and the surrounding country may be seen at the Museum of Economic Geology, Jermyn-street.

Prospectuses, containing copy of the Act of Congress and other details, and forms of application may be obtained at the offices of Messrs. McCalmont, Brothers, and Co., 15, Philpot-lane, London, E.C.; Messrs. Seligman, Brothers, 3, Angel-court, Throgmorton-street, E.C.; or Messrs. P. Cazenove and Co., 42, Threadneedle-street, London, E.C.

January 5th, 1874.

(To be retained by Messrs. McCalmont, Brothers, and Co.)

The Sutro Tunnel and Railway.—Issue of £600,000 sterling or £3,000,000 gold 8 per cent. First Mortgage Convertible Bonds.

No. ——.

To Messrs. McCalmont, Brothers, and Co.

I request that you will allot to me £—— of the Eight per Cent First Mortgage Convertible Bonds of the Sutro Tunnel Company, in accordance with the prospectus issued by you dated 5th January 1874, upon which I have paid the deposit of £——, being at the rate of 5 per cent. upon the amount applied for, and I engage to accept the said Bonds or any less amount you may allot to me, and to make the remaining payments thereon in accordance with the prospectus.

Name at full length .....
Address .....
Date.....January, 1874